192 PAGES

APRIL 1986 **$2.00 U.S.** / $2.25 CAN.

SCIENCE FICTION analog SCIENCE FACT

CHARLES
SHE
Trad od

SOM
SUCH L

FRED
POH

AS RYDEFR 3HO9APR 87 1 03
HALSEY L ROYDEN
13466 E FORKS LA
LOS ALTOS CA 94022

0 02028 04
387168

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

TWILIGHT: 2000

A Major New Role-Playing Challenge: *Survival in a War-Torn World*

Welcome to 2000 AD. World War III began five years ago. It's still going on, but that's the least of your problems. A few days ago, you were soldiers in the U.S. 5th Division. Now you're just fighting to survive.

Your equipment was brand new in 1995; now it's wearing out. Gasoline is rare, so your vehicles run on alcohol you distill yourself. And 5th Division's cavalry—when there was a 5th Division—rode horses. There's not much government left, just warlords, marauders, and free cities. Even the major powers are collapsing; whole divisions are refusing orders and heading home.

Your division is gone, and you're hundreds of kilometers inside enemy territory; fortunately, the Soviets aren't in much better shape than you are.

Your job is to stay alive, find enough fuel and spare parts to keep moving, get home (wherever that is), and maybe even strike at the enemy.

Twilight: 2000 is a major new roleplaying game, with new systems covering combat (from hands to tanks), skills and tasks, survival, encounters and NPC motives, and a great variety of equipment. It also contains extensive background information on the war and the current state of central Europe.

$18 at your local hobby shop or direct from GDW. (Add $1 for handling.) Send $1 for our catalog.

GDW Game Designers' Workshop
P.O. Box 1646
Bloomington, Illinois 61702-1646

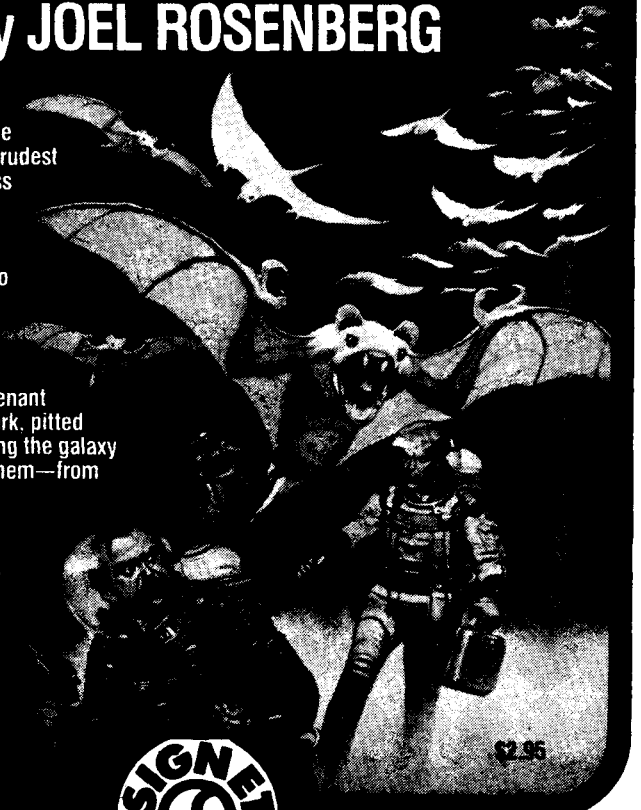
LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

From the author of the *Guardians of the Flame* series—
a galaxy-spanning tale of the two most adventurous
mavericks in the universe

EMILE AND THE DUTCHMAN

By JOEL ROSENBERG

Major Alonzo Norfeldt, alias the Dutchman: the crudest and most ruthless officer in the whole Thousand World Contact Service. And also probably the best. Now he was side by side with smartaleck lieutenant Emile von du Mark, pitted against everything the galaxy has to throw at them—from alien kidnappers to ferocious half-animal/ half-plant beings to a race of reptilian empaths that could prove the ruin of all the Thousand Worlds...



SIGNET
SCIENCE FICTION

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ANNE McCAFFREY

NERILKA'S STORY

From the bestselling author of *Moreta: Dragonlady of Pern*

Treat yourself or someone you like to a marvelous present—an exquisitely illustrated new novel of one of the most celebrated realms in all of fantasy.

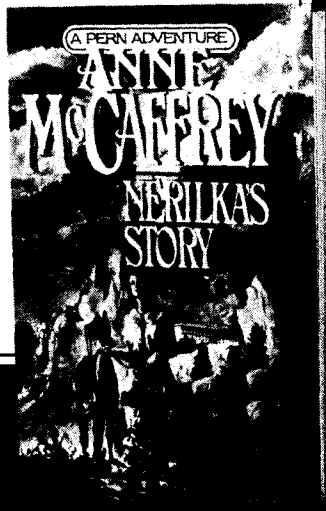
Return again to the very real world of Pern. This time, to meet a most unusual young woman whose courage during the dreaded plague inspired a legend...and a legendary love!

On sale in March

DEL REY

A Del Rey Hardcover

$12.95



DEL REY BOOKS
#1 in Science Fiction and Fantasy
Published by Ballantine Books

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Vol. CVI, No. 4
April 1986

Next Issue On Sale
March 25, 1986

$19.50 per year in U.S.A.
$2.00 per copy in U.S.A.

Serial

THE COMING OF THE QUANTUM CATS, Frederik Pohl, Conclusion ____ 88

Novella

TRADER'S BLOOD, Charles Sheffield ____ 14

Novelette

FIDDLING FOR WATERBUFFALOES, Somtow Sucharitkul ____ 150

Science Fact

ESKIMOS SOLVE THE FUTURE, George Guthridge ____ 64

Short Stories

COUSINS, Robert F. Young ____ 76
THE NO LICENSE NEEDED, FUN TO DRIVE, BUILT EASILY WITH ORDINARY TOOLS, REVOLUTIONARY, GUARANTEED, LAWNMOWER ENGINE POWERED, LOW COST, COMPACT, AND DEPENDABLE MAIL ORDER DEVICE, Steven Gould ____ 142

Reader's Departments

THE EDITOR'S PAGE, David Brin ____ 4
BIOLOG, Jay Kay Klein ____ 75
ON GAMING, Dana Lombardy ____ 87
THE ALTERNATE VIEW, G. Harry Stine ____ 141
IN TIMES TO COME ____ 86
THE REFERENCE LIBRARY, Tom Easton ____ 173
BRASS TACKS ____ 181
THE ANALOG CALENDAR OF UPCOMING EVENTS ____ 192

Cover by Terry Lee

Joel Davis, President & Publisher

William F. Battista, Associate Publisher

Stanley Schmidt
Editor

Shelley Frier
Associate Editor

Ron Kuliner
Art Editor

Indicia on Page 6

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Editorial

THE DOGMA OF OTHERNESS

David Brin

Parts of this editorial were presented as David Brin's Guest of Honor speech at Conclave in Ann Arbor, Michigan, November 1984.

It all began when my publisher sent me out on what used to be called a Chatauqua circuit—public seminars and panels and rubber chicken dinners—to promote my books. That's when I began noticing something very strange about the way people have started thinking these days.

Publicity tours can be pretty tedious, at times . . . even science fiction conventions start to blur after too long an exposure. Maybe that's why I started seeing things I otherwise would have ignored.

It all started innocuously enough. My second novel was about genetically engineered dolphins, and it's no secret that—next to unicorns—those friendly sea mammals are just about everybody's favorite creatures. People at these gatherings seemed mostly to like the way I handled them.

Inevitably, though, someone in the crowd would ask what I think of porpoise intelligence here and now, in the real world.

It's predictable. There is something

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

compelling about a species that so obviously (for lord knows what reason) *likes us*. People want to know more about them. They ask how much progress has been made in teaching dolphins to speak our language. Or have researchers yet learned to talk to them in theirs?

Such questions are based on so many implicit assumptions . . . I really hate disappointing folks, but there is a duty to tell the truth.

"I'm not a real expert," I tell them. "But the data are pretty easy to interpret. I'm afraid real dolphins simply aren't all that smart. Those folk tales about high cetacean intelligence, at or above our level, are just stories. It's a shame, but they just aren't true."

This, apparently, is not how a lecturer remains popular. Not once has the reaction varied.

"But you can't know that!"

A universal mutter of agreement. Angry, nodding heads.

"If we can't communicate with them it must be because we're not smart enough!"

I reply as best I can. "Well, Professor Luis Herman of the University of Hawaii has worked for a long time with the deepwater species *Steno bredanensis*—widely recognized as one of the brightest breeds. Dr. Herman has, indeed, proved that the higher dolphins are pretty smart animals. They can parse four, and even five-element command "sentence" signals at least as well as those famous "sign-language" chimpanzees. In fact, the evidence for dolphins is more rigorous than it is for chimps."

This has them smiling. But I make the mistake of going on.

"Nevertheless, the basic problem-solving skills of even the brightest porpoise cannot match those of a human toddler. I'm afraid if we want 'other minds' to talk to, we're going to have to look elsewhere . . . or construct them ourselves."

Again, instant protests.

"But . . . but there may be other ways of dealing with the world intelligently than those we imagine!"

"Right!" Another person agrees. *"Those problems the dolphins had to solve were designed by human beings, and may miss the whole point of cetacean thought! In their environment they're probably as smart as we are in ours!"*

How does one answer statements like those?

I've listened to recorded dolphin "speech," transposed in frequency. The sounds are repetitive, imprecise . . . clearly filled with emotional, not discoursive information.

Subjective opinion, to be sure. So I'd patiently describe the brilliantly simple experiments of Herman and others, which had forced *me* to abandon my own early optimism that it was only a matter of time until we learned to understand dolphin speech.

But this only seemed to deepen the questioners' sullen insistence that there must be *other varieties of intelligence* . . .

Finally, I gave up arguing.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"You know," I said. "Every group of non-scientists I've talked to reacts this way. It's really had me wondering. But now I think I've figured it out."

They looked puzzled. I explained.

"Anthropologists tell us that every culture has its core of central, commonly shared assumptions—some call them *zeitgeists*, others call them *dogmas*. These are beliefs that each individual in the tribe or community will maintain vigorously, almost like a reflex.

"It's a universal of every society. For instance, in the equatorial regions of the globe there's a dogma that could be called *machismo*, in which *revenge* is a paramount virtue that runs deeper even than religion. From Asian family centrism to Russian pessimism, there are world views that affect nations' behavior more basically than superficial things like Communism, or Capitalism, or Islam. It all has to do with the way children are raised.

"We, too, have our *zeitgeist*. But I

STANLEY SCHMIDT ..... Editor
SHELLEY FRIER ..... Associate Editor
TINA LEE ..... Editorial Assistant
RALPH RUBINO ..... Corporate Art Director
GERARD HAWKINS ..... Associate Art Director
RON KULINER ..... Art Editor
CARL BARTEE ..... Director of Manufacturing
CAROLE DIXON ..... Production Manager
VALERIE BARTLETT ..... Production Assistant
CYNTHIA MANSON ..... Director, Subsidiary Rights
FLORENCE B. EICHIN ..... Manager, Contracts & Permissions
VEENA RAGHAVAN ..... Public Relations
Promotions Manager
LOUISE MUGAR ... Circulation Director: Retail Marketing
JAMES R. CAULKINS ..... Circulation Planning Director
PRISCILLA GARSTON ..... Circulation Director: Subscriptions
CHRIS DORBANDT ... Newsstand Operations Manager
WILLIAM F. BATTISTA ..... Advertising Director
JAMIE FILLON ..... Advertising Manager

JOEL DAVIS
President & Publisher

LEONARD F. PINTO
Vice President & General Manager

PAULA COLLINS
Vice President Circulation

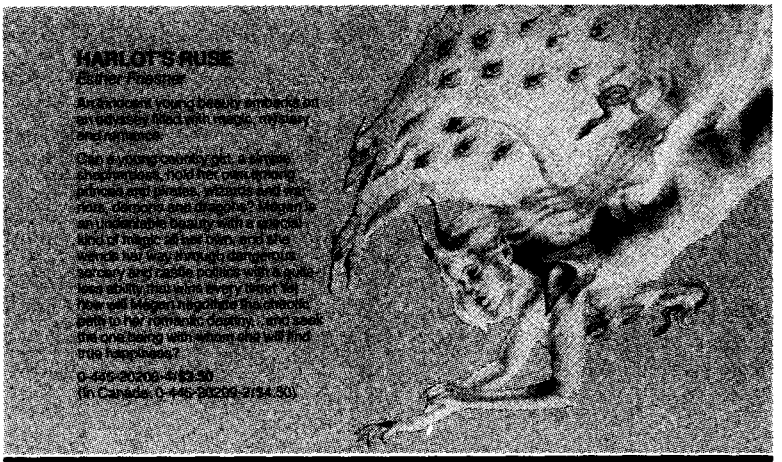
FRED EDINGER
Vice President Finance

ADVERTISING OFFICES NEW YORK
(212) 557-9100

Analog Science Fiction/Science Fact is published 13 times annually by Davis Publications, Inc. at $2.00 a copy in U.S.A., $2.25 in Canada. Annual subscription $19.50 in the U.S.A. and possessions, in all other countries, $24.20 payable in advance in U.S. funds. First copy of new subscription will be mailed within eight weeks of receipt of order. When reporting change of address allow 6 to 8 weeks and give new address as well as the old address as it appears on the last label. Second class postage paid at New York, NY, and at additional mailing office. Canadian 3rd class postage paid at Windsor, Ontario. © 1986 by Davis Publications, Inc., all rights reserved. Protection secured under the Universal Copyright Convention. Reproduction or use of editorial or pictorial content in any manner without express permission is prohibited. All stories in this magazine are fiction. No actual persons are designated by name or character. Any similarity is coincidental. Printed in U.S.A. All submissions must be accompanied by stamped self-addressed envelope; the publisher assumes no responsibility for unsolicited manuscripts or artwork.

POSTMASTER: SEND FORM 3579 to ANALOG SCIENCE FICTION/SCIENCE FACT, P.O. BOX 1936, MARION, OH 43306
IN CANADA RETURN TO 628 MONMOUTH ROAD, WINDSOR, ONTARIO N8Y 3L1
Editorial and Advertising: Analog Science Fiction/Science Fact, 380 Lexington Avenue, New York, NY 10017
Subscriptions: Analog Science Fiction Science Fact, P.O. Box 1936, Marion, OH 43306 ISSN 0161-9328
call (614) 383-3141 for problems with your subscription.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED



HARLOT'S RUSE
Esther Friesner

An immoral young beauty embarks on an odyssey filled with magic, intrigue, and romance.

Can a young country girl, a simple shepherd's son, hold her own among princes and lords, warriors and sorcerers, dragons and dragonlike creatures? Can she win the love of a handsome beauty with a magical kind of magic all her own, and live happily ever after? Or will she be ensnared by evil sorcery and cast into a world where every man is her enemy, and every woman her rival? How will Morgen negotiate the dreadful perils to her romantic destiny, and seek the confrontation with which she will find true happiness?

0-445-20200-5/$3.50
(In Canada: 0-445-20206-4/$4.50)

Questar
Science Fiction/Science Fantasy
AT BOOKSTORES EVERYWHERE
POPULAR LIBRARY

DEATH RIDERS OF HEL
Asa Drake

An all-new, action-packed adventure featuring the indomitable woman warrior, Bloodsong.

Years have passed since Bloodsong restored the magical War Skull to the Death Goddess Hel for the safe return of her daughter, Guthrun. But now, the icy Ocean Goddess has plans to awaken the dark powers that lie dormant within Guthrun, and harness them to spread her dominion over Earth. Bloodsong is determined to keep Guthrun by her side—but only her warrior's prowess and motherly love can triumph over the bone-chilling menace of Hel's Death Riders?

0-445-20199-0/$3.50
(In Canada: 0-445-20101-0/$4.50)

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

am coming to see that contemporary American culture is very, very strange in one respect. It just may be the first society in which it is a major reflexive dogma that *there must be no dogmas!*''

The puzzled looks have spread. This is quite a departure. I hurry on.

''Look how you all leapt up to refute me. Even though I'm the supposed ''dolphin-expert'' here, that hardly matters, since you all assume that any expert can still be wrong! No matter how prestigious his credentials, *no expert can know all the answers.*''

This is a bit of a revelation to me, even as I say it.

''Think about it! 'There's always another way of looking at things' is a basic assumption of a great many Americans.''

''Yeah?'' One of the fellows up in front says, perhaps with a bit of a chip on his shoulder. ''Well isn't that true? There *is* always another way!''

''Of course there is . . . or at least I tend to think so. I *like* to see other viewpoints.'' I shrug. ''But you see *I* was brought up in the same culture as you were, so it's no surprise I share your *dogma of otherness . . .*''

I roll the phrase over on my tongue, then repeat it, perhaps a little pontifically. ''The *Dogma of Otherness* insists that all voices deserve a hearing, that all points of view have something of value to offer.

''Your reactions this afternoon reflect this fundamental assumption. Having been raised in the same culture, I believe in it as fully as you do. Recall how reluctant I was to decide, at last, that dolphins aren't super intelligent. Most of us here believe in diversity of ideas.

''But think, for a moment, how unique this is . . . how unusual this cultural mind-set has to be! Throughout history nearly every human society has worked hard to ingrain its children with the assumption that theirs was the only way to do things. Oh, we still get a lot of that here. It probably comes automatically with flags and nations and all that tribal stuff. But where and when else has the societal dogma included such a powerful indoctrination to *defend* otherness!''

A man in the front row speaks up.

''That's a culturally chauvinistic statement!'' There are agreeing nods all around the room. ''I mean what's so special about *our* culture? We're no better than, say, Asian civili—''

''You're doing it again!'' I cry; I can hardly sit still. (Perhaps from being too impressed with my own cleverness?) Several members of the audience blink for a moment, and then smile faintly.

''I don't see—'' he tries to continue but I'm too excited and hurry on.

''Look, it may be true that there's something to be learned from all points of view. *But it might also be true that that's just the bias our heterogeneous, melting-pot culture has imposed on us!*

''Answer truthfully. You all believe that widely diverse points of view have merit, right?''

''Right!'' the young man answers, firmly and with his jaw set.

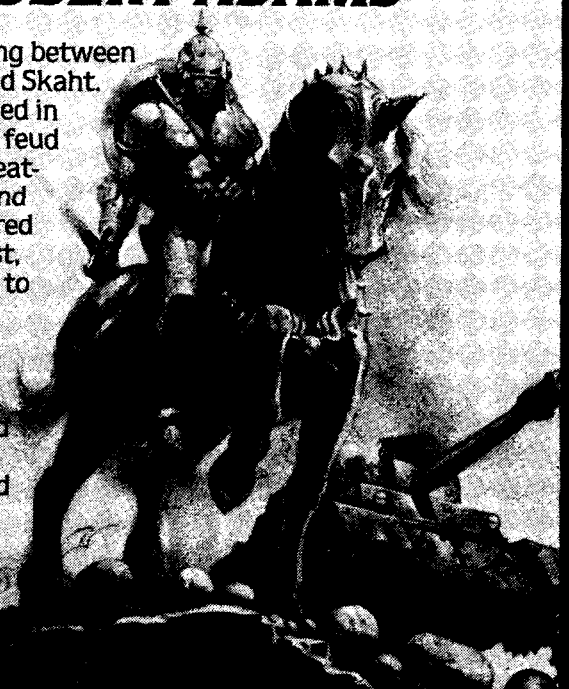
''And your insistence could be called

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

HORSECLANS #14

A MAN CALLED MILO MORAI

By ROBERT ADAMS



Trouble was brewing between the clans Linsee and Skaht. Many had been killed in raids, and now the feud between them threatened to spill over and engulf all the Kindred clans. Until, in a last, desperate struggle to save the unity of the Kindred, Milo promises to intercede—to take the assembled sons and daughters on a journey of the mind to a strange and distant place... back to the twentieth century!

$2.95

SIGNET SCIENCE FICTION

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

a declaration of faith in a "Doctrine of Otherness," right?"

"I suppose so. But—"

"And you'll agree that as a truly pervasive set of assumptions its pretty much a liberal Western, even American, tradition, won't you? Think how strange this Doctrine of Otherness would seem to an ancient Roman, or to the dynastic Chinese who thought the world revolved around Beijing, or to Tudor England, or to most of the peoples of the world today."

"Well . . ." he doesn't want to admit it, but after a moment's thought the fellow finally nods. "All right, so that's just our way of looking at things. But you can't say it's actually *better* than any other way. We have this so-called Doctrine of Otherness. Other peoples have their own cultural assumptions, of equal value."

"Aha!" I smile. "But by saying that, by stating that those other points of view have merit, you are insisting that *your* cultural dogma—this "Doctrine of Otherness"—*is* the best! You're a cultural chauvinist!"

He frowns and scratches his head. A woman on the left raises her hand, and then slowly lowers it again.

From the back, a voice calls. "That's a tautology . . . or a paradox . . . I forget which. It's like when I say—'This sentence is a lie.' You've got him trapped either way he goes!"

I shrug. "So? Since when are deep-seated cultural assumptions ever fair? They're adaptations a society makes in order to survive . . . in our case dictated by being a nation of immigrants who had to learn to get along together. Dogmas don't have to be entirely logical, so long as they work.

"Still, perhaps we ought to be proud of America as the prime promoter of a dogma of difference and choice—"

Ooh. They react quickly to that!

"Why proud?" An elderly lady remarks vehemently. "That doesn't make us better than anybody else! It's no great shakes to measure our own culture by *our* culture's standards, and come out with the answer that we're okay! We worship diversity, so by that token we see our worship of diversity as virtuous—"

"*That* is a tautology," I point out. Fortunately, she ignores the rude interruption.

"—But that doesn't mean that our culture doesn't come up lacking by some *other* set of standards!" She insists. "Other cultural dogmas could be just as valid!"

I sigh. "You're doing it again."

This time a few in the audience laugh. The woman glares for a moment. "Okay. So I'm a product of my culture. But that doesn't necessarily mean I'm right. I mean it doesn't necessarily mean I'm wrong! . . . I mean . . ."

When the laughter spreads she breaks down and smiles. "I—I think I see what you're getting at, now."

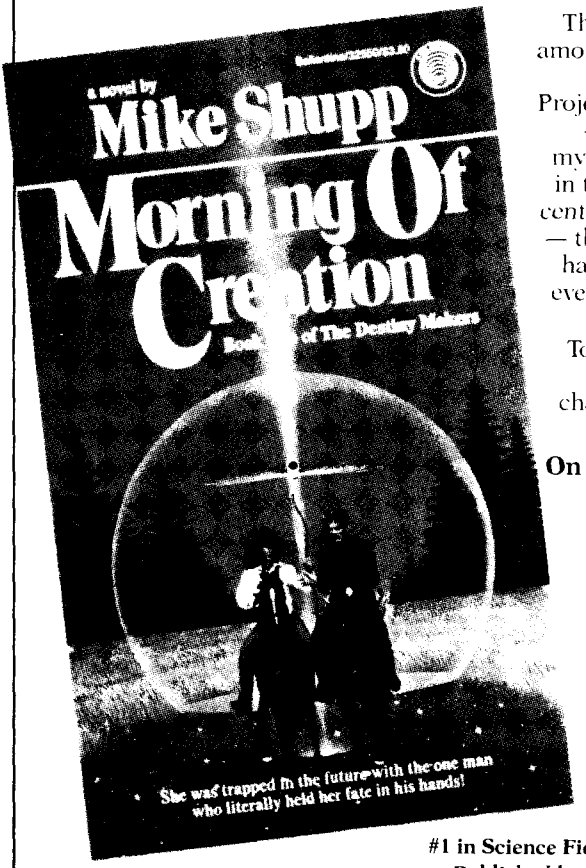
"I only wish *I* did," I reply. But we're starting to get into the spirit of this, now. More hands rise, and we're off.

Perhaps it began with Copernicus, who exiled Earth permanently from the

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

New from the author of *With Fate Conspire!*

A time-traveling odd couple . . . at odds with an empire!


a novel by
Mike Shupp
Morning Of Creation
She was trapped in the future with the one man who literally held her fate in his hands!

They were misfits among the agents of the Algheran Project: Tim Harper — the man with mysterious origins in the ancient 20th century, and Kylene — the telepath who hated him . . . and everything Alghera stood for.

Together, they set out to secretly change history . . .

On Sale in March
$3.50

DEL REY

#1 in Science Fiction and Fantasy
Published by Ballantine Books

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

center of the Universe.

If this was so, then no one could claim Europe (or China, or Arabia) was the navel of creation, either. The hidden implications were profound. People who accepted the new astronomy also had to adjust to the idea that what their senses told them every day was untrue . . . that the world did not revolve around them alone.

As the centuries passed, this Copernican "Principle of Mediocrity" was extended. We discovered that the sun is really a rather mundane star, in a not unusual galaxy, among billions of galaxies. Now we find that the Milky Way's spiral arms teem with the very chemicals of life, implying that our Earth, special as it is, is not likely to be unique.

Mankind's brief existence in the four-billion-year history of the planet is a sure lesson in humility.

Meanwhile, relativity tells us that there is no absolute frame of reference. Gödel's Proof and Quantum Mechanics have refuted forever old Hegel's mad dream of "derived certainty." Truth—it has been proven mathematically—is a thing with fuzzy outlines, when you look up close.

So perhaps it was modernity, as well as the sociological needs of a melting-pot nation, that caused us to develop the Dogma of Otherness. If there's nothing so unique about our own place and time, maybe there's nothing particularly central about our own selves, and the points of view we happen to hold.

Nor is it even necessarily paramount being human!

(Would you believe that until a hundred years ago, children's stories very seldom featured sympathetic animal characters? In 1907 the "Teddy Bear" was criticized as "likely to warp the mothering instincts of young girls." Now sympathy with other creatures is inculcated at an early age, by wise owls, cuddly pandas, and friendly little aliens.)

The Principle of Mediocrity has not vitalized only science, it's given us the ability to re-examine centuries of prejudice, and shake off old tribal taboos with hardly a wince. In spite of the new horrors that madmen can perpetrate when their clutches fall upon modern technology, we have made progress. It's a more reasoning, more rational world we live in today.

Still, philosophies, even philosophies that do good, can outlive their vigor. What Copernicus began need not continue forever.

There is a new principle making the rounds these days—called the "Anthropic Imperative." Its most vigorous proponents, including Professor Frank Tipler of Tulane University, seem to be saying that we have gone too far in claiming that there is nothing special at all about the time or place in which we live.

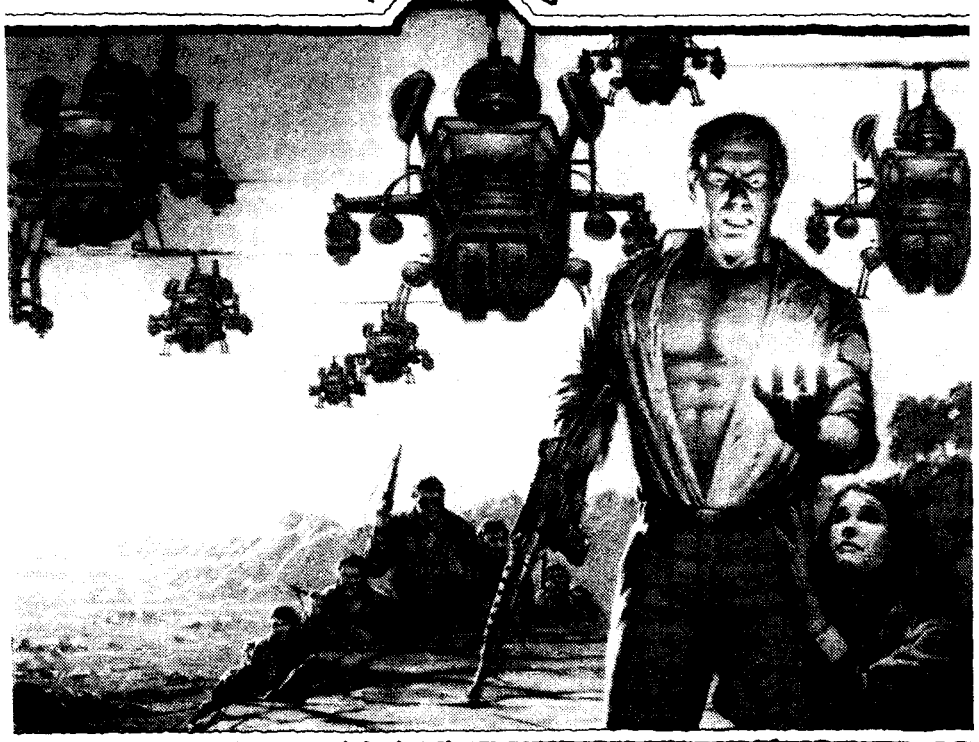
Simply stated, the Anthropic Principle says that it's quite possible for an observer's time and place to be unique, if the unique factor is necessary in order for there to be an observer in the first place!

(continued on page 189)

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

THE LAST MAN TO OWN IT WAS HITLER—
THE NEXT WOULD RULE THE WORLD.

THE MESSIAH STONE



A NOVEL OF
MERCENARY TERROR AND OCCULT DOMINION

BY

MARTIN CAIDIN

AUTHOR OF *MAROONED*,
THE SIX MILLION DOLLAR MAN, AND
THE LAST COMMAND

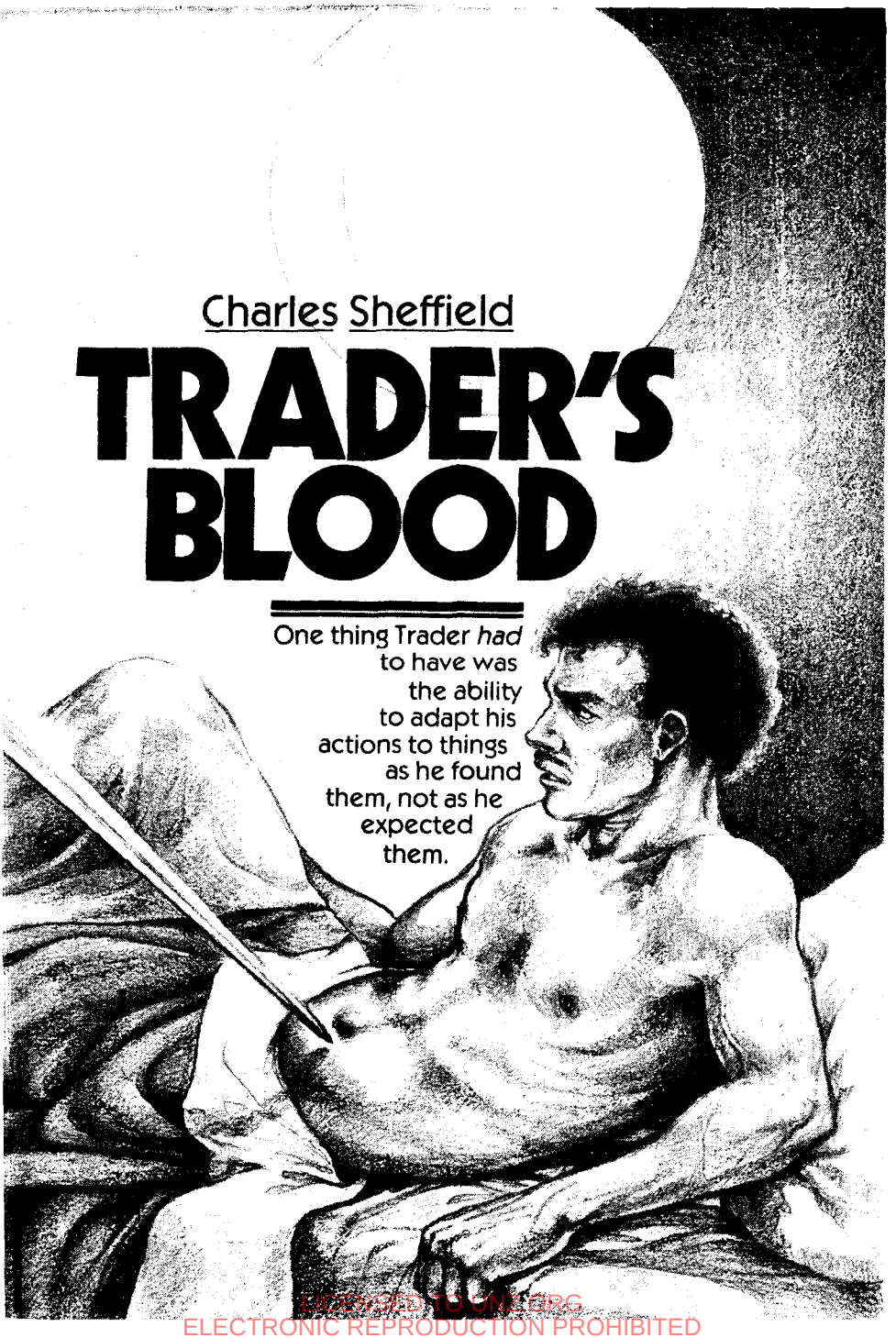
LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Charles Sheffield

TRADER'S BLOOD

One thing Trader *had* to have was the ability to adapt his actions to things as he found them, not as he expected them.



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Trader's Rule: Hang in there; help is on the way.

And if a trainee-Trader didn't believe it, Daddy-O would cite the case of Jack "Lover-boy" Lester. He had caused the Strines some minor annoyance, and worse than that he wouldn't tell them his hidden mission.

They had showed their irritation in a practical way. When a Trader Smash finally rescued him, he was not in good shape. He was armless and legless. The Strines had removed his penis and his scrotum, then carved out his eyes. When he still would not reveal his mission, they had become quite annoyed. They had flayed him, cut off his lips, burst his eardrums, pulled all his teeth, and cut out his tongue. They had of course done this slowly, a little at a time to cause maximum anguish, with full use of their life prolongation techniques to make sure that he did not die before his time. Finally they had removed his heart, liver, lungs and kidneys, and put him in a tank. This was sheer bitchiness, of course, since those operations were not even painful.

The Smash unit rescued Lover-boy Lester, flew him back to Trader Base, and hooked his brain to Daddy-O. His first words were, "What kept you?"

Trainee Traders inclined to be skeptical of the story were given one inarguable proof: they could go and see him. Jack Lester was still alive, in a Trader hospital in the Azores.

He was tremendously cheerful. He had frequent visitors. And he told all of them that the only thing that had kept him going was the knowledge that help was on the way.

"What can we do for you?" asked the more caring (or less sensitive) visitors.

"Maybe a pepperoni pizza?" said Jack. "Or if you're feeling super-energetic, there used to be an enormous big Greaser whore down in Puntas Arenas. I bet she's still there now. Her name is Little Suzie. I always wondered what it would feel like to jump on top of her. She has sixteen sorts of pox, but if you'd go there and take a wallow and come here and tell me about it, I'd pay you out of my pension."

Of course, Jack Lester, what was left of him, was clinically insane. His conversation proved it. But he was the Traders' best proof that help was always on the way.

Lover-boy Lester was not in Mike Asparian's thoughts during his final training briefings. He had plenty of more immediate things to worry about.

"If your mission goes all wrong," Lyle Connery was saying, "make sure you swallow the TRS."

Mike looked dubiously at the Training Director, then at the Trader Recording Sphere on the table in front of him. It was about two centimeters across, and heavy as solid iron.

"*Swallow* it?" Connery was supposed to have an odd sense of humor, but this was a strange time to show it.

"Yes." The Director reached out a muscular bare arm and picked up the sphere. "It will go on recording, even inside you. We'll lose some visual frequencies, of course, but we'll supplement with ultrasonics. Don't worry about how we'll recover it, we'll find a way to get it out of you."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"But suppose it's not inside me. Suppose it—I mean, suppose I—"

"Excrete it?"

"Yes."

"You won't. When the TRS senses the composition of digestive juices, it extrudes hook attachments and stays put. It will be in your stomach until we take it out."

Mike looked again at Connery's expressionless face. According to camp rumors, any trick in the book might show up on the final Trader Test. But surely there were limits. "Suppose the Strines take it out first?"

"That's a danger. But you can decrease the chances of that. Tell them you're partly black. That way they'll be less likely to do some fancy cutting-up on you. They save their most elaborate interrogations for white people. Illogical, but it's built into their prejudices."

"I *am* partly black."

Connery consulted the screen in front of him. "So you are. Then you should be convincing." The sphere came rolling across the table back to Mike. "Practice swallowing it in the next day or two, would you? Medlab can get it out of you easily enough. One other thing: have you had your Mentor assignment yet?"

"No. Medlab told me there was difficulty finding somebody with the right Strine experience."

Connery frowned for the first time. "I'll build a fire under them. You'll need a few hours to adjust to the Mentor, and I want that over with before you check out. All right, let's get you moving. The flight to Orkland leaves in forty-eight hours. You need an equipment check, and you need a time-zone shot. Report to Third Level. Then you can go say your fond farewells—if you have any."

Mike was dismissed. Lyle Connery watched him leave and keyed in a circuit to Daddy-O. He looked carefully at the locked data file, then called for a Daddy-O voice connect.

"Asparian is heading out for his first mission," he said. "We usually pick something simple on the Entry Test for full status. It's not my job to tell you this, but Asparian's mission profile would scare me if we gave it to a Trader with twenty years experience."

"Asparian's test results indicate unusual potential." Daddy-O's tone sounded cold and casual.

"I know they do," said Connery. "That's why it would be a hell of a shame to lose him. I hope you can assign him a first-rate Mentor."

"The best there is."

"Good." Lyle Connery cut the circuit, and then had second thoughts. The best Mentor—for the Strine interior? He re-connected to Daddy-O. "Who will Asparian's Mentor be?"

"Who else?" The computer's voice circuit sounded slightly weary. "Jack Lester—he knows more about the Strine interior than any three others."

"Lover-boy! How are you going to explain *that* to Asparian?"

"I'm not." There was a slight pause, while Daddy-O diverted part of his network to handle conversion of a large data base. "You are."

An experienced Trader had three ways to get onto the Strine mainland. If he had been there before and been well-received, he could go direct by air

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

to Swales and BigSyd. (And "he" meant *he:* the Strine mommas would not accept female Traders). Or he could go by sea, to one of the trading ports around the Strine south mainland coast. Or, if he was mad and quite desperate, there was the north approach. A Trader could go in by any damn fool method he liked through the northern badlands, where the southern fringe of the Heavenly Cloud had swept through. No one watched that coastline. Things still grew peculiar there, even by Strine standards. And they acted worse than they grew.

Mike had looked at the northern approach for about five minutes, then shuddered and abandoned it. Get through the badlands, and then what? Be carved by the interior tribes, unless you were very lucky or skillful, before you got to Berra or BigSyd or anywhere else that counted.

So as a neophyte on his first mission, Mike knew he had no real choice. He would fly to Orkland, then go west by surface vessel to enter at BigSyd on the east coast. From there it would be a tough overland trek, into the worst part of the Interior only a few hundred kilometers south of the badlands.

And *after* that the hard part would begin.

The flight to Orkland in a Trader transport was dull, but comfortable enough. The culture shock began when he was dropped off at the jetty and went aboard the ship. Although the three-funneled, broad-hulled carrier vessel appeared to be totally deserted, within two minutes of his arrival the engines had started, and they were maneuvering their way out of the Orkland harbor.

"The crew—where are they?" Mike sub-vocalized the question deep in his throat, then waited the necessary half second while the signal went up to synchronous orbit, through a relay satellite, and down to the Azores.

"Probably asleep." The thread of Jack Lester's voice sounded amused in Mike's left ear. *"And there should just be one woman for crew. Don't worry, shipmate, she'll show up once we're well on our way. Make yourself at home. The ship runs on full automatic —the Strines use the best microcircuits that the Chills can make, and the only reason for a crew is to keep an eye on you. Take a good look around, would you? It's a long time since I've seen this part of the world."*

Mike dutifully promenaded around the deck, looking now and again out across the dark swells of the open sea. He did it slowly, waiting for Lester's acknowledgment at each stage before moving on. The ship was moving at high speed. Orkland was already out of sight behind them.

"Ah! Smell that air!" said the Mentor's ecstatic whisper. *"Take a good sniff for me, boyo. There's nothing like that anywhere else in the world. Dust and euclypts and mulgas. That west wind comes here right out of the middle of Strine; after it passes over Orkland it won't hit land again until the Greaser coast—seven thousand kilometers of open sea!"*

Mike looked around him and felt far from ecstatic. They were well out of sight of land, heading across endless gray water. The brisk wind in his face was blowing the surface of the sea into long, sullen, rolling waves, and the ship was plunging straight into them. The

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

The humans thought their own telepaths an inferior species—until their first contact with the real alien...

They thought themselves the lords of the universe and looked upon D'neerans, the only human telepaths, as being not quite human, or trustworthy. But a few could see their promise. Jameson risked everything to take one, the Lady Hana, aboard the starship Endeavor on its unique star search for alien life. But when contact came, and the message was received, it was meant only for the Lady Hana—and upon her would rest the future of all humankind.

SENTIENCE

By TERRY A. ADAMS

$3.50

The Exclusive Science Fiction and Fantasy Line Selected by DONALD A. WOLLHEIM

DAW
SCIENCE FICTION

Distributed by NAL
NEW AMERICAN LIBRARY

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

black metal deck had begun to pitch and roll in an alarming way. Spray from the bows was blowing back to wet his face.

Suddenly Mike had the nauseating feeling that they were cutting through dark hills of thick oil, the rendered fat of some primitive and gigantic Strine beast. He could taste it on his lips. He held tight to a deck derrick.

"According to the schedule it will be three days before we arrive at BigSyd. Will it be like this all the way?"

"Like this? Nah." Lester giggled in his ear. *"This is a flat calm. We're in the Roaring Forties, where the winds blow right around the world and hardly see land. When we're farther out, we might get a real blow. Cheer up, laddie, you'll be all right. That's why you went through conditioning. You'll have your sealegs in half an hour, and be up and looking for trouble. Why don't you go on forward, and see the skipper? I've been wondering what she looks like."*

Mike stared around him, belched queasily, and shook his head. Lover-boy Lester might be right, and his conditioning could eventually take over. But there was no sign of it yet. He clutched his midriff unhappily, lurched down a dimly-lit companionway to his quarters, and felt his way to a bunk.

He lay down. After a few moments he tongued the control that cut Lester out of contact. He had been told to do that only when he slept, but the hell with it. The Mentor was more than he could take for the moment. Mike closed his eyes, and tried to concentrate on his mission profile. He had been briefed, over and over again, on what he ought to do when he reached the Strine *mainland;* but no one had thought it worthwhile to mention how sick he might feel now, before he even got there. What else had no one bothered to tell him? And how many other little surprises did the Traders leave in their admission tests? And whose idea was it to inflict Lover-boy Lester on him as his Mentor?

Mike allowed himself five minutes of silent general misery (Trader's rule: Don't be ashamed of self-pity—it is the only sort you are likely to get); then he forced his mind back to the present situation.

The mission. Begin with the mission, he told himself. Let's lay out the bare facts, and see if anything new comes to mind, now that we've passed Orkland and are actually on the way.

Mission profile. It had sounded simple enough (almost everything did, when Lyle Connery explained it). Three months ago, a Strine bigmomma had died of a sex-drug overdose down in Ree-o-dee. All the expensive hotel rooms in Greaserland were bugged as a matter of course, so within five minutes the hired male consort had been de-coupled and whisked away, and the room made ready for a new occupant. The big momma's body would be returned to Strine (assuming suitable payment) or disposed of locally.

No problem. A neat, standard Greaser operation, something that happened ten times a day somewhere in the continent, handled with the efficiency that had made Greaserland the world center for illicit sex and drugs. The situation became more complicated when a Trader agent had the opportunity to search the momma's body before anyone else. He had found, and removed, a small package of dried yellow berries from a secret

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

compartment of the momma's boot-heel. They were smuggled out to Trader Headquarters, and there the mystery grew. Daddy-O had nothing like them in the data bases—and Lyle Connery assured Mike that if Daddy-O didn't have it, *nobody* did. It was a new plant species, genetically modified. Daddy-O had produced a couple of useful pointers: the berries seemed to be fruit from a modified form of Strine euclypt; and the bigmomma had come to Ree-o-dee from The Musgrave, smack in the middle of Interior Strine. Also, she let it be known in Ree-o-dee that she had something special with her that she might be willing to sell. Add in the fact that the Strine biolabs were the world leaders in bio-engineering, with as big a lead there as the Chills in microchips, Yankees in ag production, or the Chips in space development, and the picture became clear. Some Strine lab had developed a new plant species.

"We thought that might be the end of it," Connery had said, "but it turned out to be the beginning. Our first set of tests on the berries showed that they contained a complex alkaloid, one that we couldn't identify. We weren't sure what we had, and we wanted the best analysis we could get. So we let the big powers bribe us a little, so they would each get their hands on a few berries from our supply."

"Why let *them* do the testing?" asked Mike. "Aren't our labs as good as theirs? And seems to me they'd try and screw us if they found anything good."

Lyle Connery shook his head. "Our equipment may be as good, but we won't experiment on human 'volunteers' the way that they will. And even if they found the berries were valuable, they would still have to deal with us—we were the only people who knew where the berries had come from. Anyway, about a month ago our agents began to hear about test results. They were quite something. Look at this video. It's the recent sprint final from the Greaserland Games."

He called a video onto the display screen. It showed a group of eight runners lined up in starting blocks. At the electronic signal one man burst off the mark well ahead of the others. He increased his lead all the way to the finish line, and won by more than ten meters.

"That's a Chill competitor," said Connery. "Snorresen, from Cap City. According to our records, before he ran in these Games his best time for one hundred meters was about nine point seven. You've just seen him running eight point eight. Previous world record was nine even. But our insiders down on the southern ice cap say that Snorresen was holding himself back all the way in that race—in training, he is supposed to have run the distance in just over five seconds."

Connery flicked off the display. "Those berries are something special. Apparently the alkaloid we discovered in them totally changes synapse speed and reaction times. The Chills call the active component *Velocil,* and that's not a bad name. When a human being gets ten milligrams or so into the system, the limit on speed of movement seems to be simple tissue-tearing stresses. We've heard reports from the Yankees of a woman catching swallows out of the air with her bare hands, and a man grasping a rattlesnake safely by the head while

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

it was striking at him. The Greasers have a movie of a hunter running down an antelope in full flight, and from up in orbit there's a rumor of a Chip woman picking a bullet out of the air—though we're still skeptical about that one. But the rest are quite enough. Those berries are a unique new resource."

"But who wants them?" Mike had been dazzled by the speed and grace of the runner, but it was hard to see why increased reaction speed was so valuable. "I mean, everything that needs really fast speed is computer-controlled anyway."

Connery smiled. "Most serious things are. But the Greasers want to see Velocil completely under their control. Think what unlimited use of it would do to their businesses. It could screw up horse races, athletic contests, card games—everything that visitors to Greaserland bet on. With a dose of Velocil in him, a card player could change a jack to a king so fast that no one would see anything happen. Cockfights and bullfights and horse racing would be completely unpredictable. I suppose the Greasers could drug-test everything, but that would be a terrific hassle. Far better to control it at the source."

"So why not let them buy the rights from us?"

"Two reasons. First, we don't *have* the rights—though we haven't told anyone that. The other power groups think they can deal with us. Second, the Yankees are interested in the berries as an agricultural cash crop. Remove the alkaloid, and in what's left you have the highest vegetable protein per gram anyone has ever seen."

"Then why not just negotiate with the Yankees and the Greasers?—and the Chills and Chips, too, for that matter, if they're interested. I assume we still have some of the berries."

"We do." Connery sighed. "But we still have to work with the Strines—because, Trainee Asparian, someone else is at least as smart as we are. Those berries have seeds in them, but they are *sterile*. They were exposed to a big dose of radiation before we got our hands on them. Someone has to go to Interior Strine and confirm the source of the Velocil berries. Where are they produced, and who controls their growth and supply? That's your test mission. After that the Traders will have to strike a deal, but we're not asking you to do it. You don't have the negotiation experience for it. All clear?"

Mike nodded. "Information, but don't try negotiation. I'll remember."

"Good." Lyle Connery looked at Mike closely. "One other thing for you before you go." He paused. "Remember Trader Rule Number 4?"

"Sure." Mike cleared his throat self-consciously. The Rules were something you committed to memory but seldom quoted. " 'Trader Rule Number 4: Anyone who isn't working two agendas at once should give up being a Trader.' "

"Exactly. Well, we don't apply that to Trainees, so there is no *official* second item that you'll be looking at. But I can tell you, unofficially, that just a few days ago we had rumor of something else in the Strine Interior that might be a lot more important than Velocil. Have you heard of the Dulcinel Protocol?"

Mike sat staring at Connery and racked his brains. The Dulcinel Proto-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

SYLVIA PORTER'S PERSONAL FINANCIAL PLANNER DOES MORE THAN MANAGE YOUR MONEY

IT PLANS YOUR FINANCIAL FUTURE TOO

Sylvia Porter, and the editors of Sylvia Porter's Personal Finance Magazine, now combine with all the computer tools you'll ever need to help manage your money on a day-to-day basis and plan your financial future, too. In Sylvia Porter's style, without complicated financial jargon or "computerese".

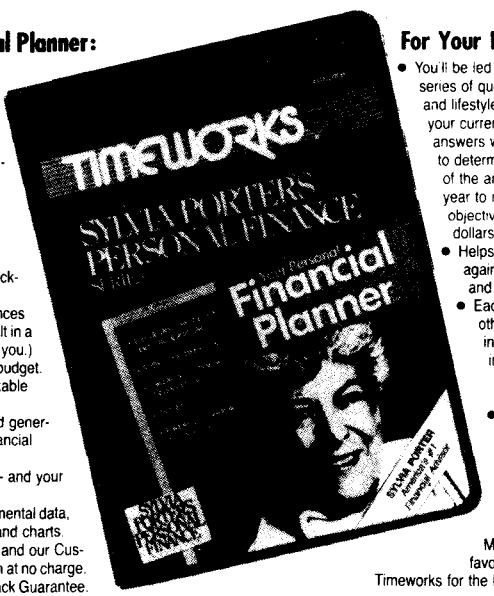
Volume 1

Your Personal Financial Planner:

Helps you track your day-to-day financial data, then combines this information with your future financial objectives to produce the most comprehensive and easily-understood financial planning program available.

For Your Day-to-Day Affairs:

- Maintains your electronic checkbook and credit card system.
- Writes your checks and balances your checkbook. (We even built in a calculator and memo pad for you.)
- Prepares and monitors your budget.
- Classifies and tracks your taxable income and expenses.
- Calculates your net worth and generates customized personal financial statements.
- Tracks your financial assets – and your insurance policies.
- Graphically generates supplemental data, such as percentages, ratios and charts.
- You get our Toll-Free Hotline and our Customer Technical Support Team at no charge.
- You get Timeworks' Money Back Guarantee. (Details in each package.)



For Your Financial Future:

- You'll be led step-by-step through a series of questions regarding your life and lifestyle, your financial goals, and your current financial condition. Your answers will enable a computer to determine and print a summary of the amounts you must save each year to meet your financial objectives - in both real and inflated dollars.
- Helps you plan for protection against major medical adversities and other financial setbacks.
- Each program interfaces with others in this series. Your information can be incorporated into letters and reports produced by Timeworks' Word Writer
- Everything is integrated. You need to enter data only once.

Available for Apple, IBM and Commodore computers.

Moderately Priced - from your favorite Dealer or contact Timeworks for the Dealer closest to you.

Next in this integrated series:
Your Personal Investment Manager.

Other Timeworks Programs: The Evelyn Wood Dynamic Reader • Word Writer with Spell Checker • Data Manager 2 • SwiftCalc with Sideways • Business Systems • Swiftax • Cave of the Word Wizard • Wall Street

TIMEWORKS®

More power for your dollar.

TIMEWORKS, INC., 444 Lake Cook Rd., Deerfield, IL 60015, 312-948-9200

© 1984 Sylvia Porter's Personal Finance Magazine Co. & Timeworks, Inc. All rights reserved

From America's #1 Financial Adviser

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

col. Something he had heard about years ago. When was it? Back during the history of the Lostland War, before the Chips went out into space.

"Wasn't that another Strine development?" he said at last. "Something to do with the abo teams, maybe."

"Damn good." Lyle Connery nodded approval. "It's nice to know some of the history lessons stuck. The original Dulcinel Protocol was used with the first haploid abo killing teams, thirty years ago. It's a lymphocyte change to permit rapid self-healing after wounds—part of the reason the killers were so effective against the Chips. We thought we knew the whole story on it. But now we hear reports on a major new development. This time the Protocol is more general. The new treatment can be applied to *anyone*, not just haploid abos. And it does many more things: rapid healing, resistance to disease, shrinking of malignant growths, tissue restoration, lessened need for sleep, and greater endurance. But there's a problem. The Strines are telling us the new Dulcinel Protocol doesn't exist, so there's nothing to discuss. It's not the usual situation, where they keep it close to their chest to strike a better deal. This time they don't want anyone else to have it—period. We hear they'll kill anyone who tries to get it."

Mike swallowed. "And you want me to get—to try to—"

"No." Connery smiled. "It's fifteen years too soon for you. The Trader Test may be unreasonable, but it's not *that* unreasonable. All I want you to do is keep your eyes and ears open. If you notice anything strange, make sure that Jack Lester gets a look at it, too. He's sometimes crazy, but he has the experience you're missing. And remember, dead heroes don't have any value to the Traders. The modified Dulcinel Protocol is a job for a very experienced Trader. Your main mission is this: Confirm the source of the Velocil berries. That's enough for a Trainee, so keep it as the only priority."

"Yessir."

Mike had wondered, with a little bemusement, why Lyle Connery would tell him all about the Dulcinel Protocol, then instruct him not to worry about it. Now, lying quietly on his bunk heading for a landing at BigSyd, he thought he understood. Apart from an official mission, it was standard practice for a Trader to have a private and unofficial one of his or her own. Connery was introducing Mike to the system, and pointing him toward something that Mike might like to explore as a private sideline.

But how? He would first have to learn a good deal more about the Dulcinel Protocol. That might be something where he could use Jack Lester to good effect, while Mike was busy on the main mission. Lester certainly had access to all the Trader data banks.

Mike opened his eyes, all ready to tongue in a circuit to Lester. Then he became suddenly aware of two new factors. First, his conditioning had apparently come into operation. He could feel the ship's motion, and it was much greater than before. But now it was no longer unpleasant. That was good. Less good was the fact that someone was standing at the end of the bunk, quietly watching him. And in the gloom he could see that they were holding a long

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

and wicked-looking sword blade of glittering steel. It was lined up on his unprotected abdomen.

Mike turned slowly and carefully to face the intruder. He found he was looking at a woman of about thirty, a short-haired, strongly-built blond woman with tanned arms and legs. She wore a blue sleeveless blouse, tight pants cut off at knee level, and thick-soled sandals. Mike carefully completed the tongue movement that would bring Jack Lester back into communication, then nodded his head at the woman.

"Hello," he said softly.

She lowered the blade so that it almost touched his belly. Mike felt all the muscles there tighten up, independent of any conscious act on his part.

"You're a Trader, ain'tcher," she said conversationally. "Where you come from, men and women are equal. But not here. You know I could carve your guts out this minute, and no Strine would give a damn?"

Her voice was husky and low-pitched, and somehow matched the sun-tanned and open-air look of her body.

"I know." He kept his voice as casual and cheerful as he could. "But I'm not sure why you'd want to. Seems to me my guts don't have much value to anybody—except me, of course. I value them highly."

As Mike spoke he heard a little hiss in his left ear. Jack Lester was back. The woman in front of him chuckled and lowered the blade.

"Maybe you'll do." She came forward along the bunk, and stood just a foot from Mike. "Not like the lily liver I had to deal with last time—all he did was scream and beg me not to cut his balls off." She held out a hand. "My name is Lavengro. Fathom Lavengro."

"Don't touch her hand!" said Lester urgently in Mike's ear. *"Let her take yours, if she wants to. Men don't touch women here first."*

"I know." Mike sub-vocalized an impatient response, and held his hand out where Fathom Lavengro could take it if she wished.

"I guess you're the captain of the ship," he said aloud. "I'm Mike Asparian. And you're quite right, I'm a Trader." *Or I will be, if I can ever pass this test—so I hope you're going to help me, ma'am.*

Fathom grabbed Mike's hands and helped him to swing to an upright position. She smiled at him, and he had his first good look at her face. She was a gray-eyed blonde, with a wide, pale mouth and two strange parallel vertical incisions between that and her chin.

"See the marks?" hissed Lester urgently. *"I've heard of her before. She's a bigmomma—and from the Interior! Two thousand miles away from home. What's she doing in Orkland?"*

Mike was already asking himself the same question, while the woman gave him a leisurely but careful inspection.

"Lordy! Bit young, ain'tcher?"

Mike felt himself flush, and he pulled his hands out of her grasp. "I'm twenty-two."

"Thought so. Twenty-two! Don't know what's coming to you Traders, you get younger all the time. And a pretty one, too. Did Daddy-O decide to send a honey mouse just for me?"

"She likes you," said Lester excitedly. *"Remember now, let her make the*

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

moves—and if it gets exciting, don't you dare cut me out of the circuit! I'm getting full sensory inputs back here.''

''For God's sake, calm down, Lester! This is business. How does she know about Daddy-O?'' Mike forced himself to take a step closer to the blond woman. ''Lavengro is an Interior Strine name, isn't it? Tommy Lavengro used to be chief of the Interior.''

That earned him a respectful nod. ''You've done your homework, sweetheart. My Pops, he was. I don't know his reputation with the Traders, but he was a man who made deals as easy as breathing. I'm his daughter, and I'll make deals, too. Try me.''

''Tommy Lavengro,'' whispered Lester in Mike's ear. *''The only man who could hold his own with the bigmommas. I knew him. Biggest liar in Strineland. Far as I know he never told the truth in his whole life. Two children: Jessica, better known as Fathom Five —that's the one you're talking to; and Jinjer, the mystery one that nobody knows much about. Usually called Cinder-feller—had some terrible deforming accident in a fire a few years ago, got that name there but I don't have any details. Big bosses in the Strine interior. Wonder if they take after Daddy.''*

''We might find out if you'd just shut up for a minute.''

Mike nodded at Fathom. ''If you'll make deals, so will I. For a start, how would you like to trade some information?''

Fathom looked at him shrewdly, and slid the keen-edged sword blade back into a sheath on her right hip. ''Maybe. D'yer think you know anything I'd give a kangy's cooch about?''

''I'm sure I do. But I don't want to talk down here.'' Mike felt the need to see Fathom in a different environment. ''I haven't eaten in fourteen hours, and I need some fresh air. Can we go forward to your quarters to eat and talk?''

She shrugged, turned without speaking, and led the way up to the deck.

''Remember, don't trust her an inch,'' said Jack Lester urgently, as Mike followed her closely. *''She'll act all sweet and kind, then when you're no more use to her she'll cut your throat—and won't lose a wink of sleep over it. Coo-ee. Might be worth it, though. Take a look at the wiggle on that rear end! Makes you want to reach out and grab a handful.''*

Mike sighed. Trader's luck. Of all the Mentors available, he had been assigned the only disembodied lunatic would-be rapist in the whole organization. *''Get your mind off sex for a minute, Jack. Take a look in Daddy-O's data banks, and find something we can use to trade for information. She's sure to know the Interior better than we do. Let's use her knowledge.''*

Mike ignored his Mentor's protests and lagged behind on the steep stairway, so that Fathom's posterior undulations were less intimately revealed to them. He was finally beginning to understand the logic for Jack Lester's nickname.

When Mike came on deck he had to bend almost double to make his way forward. The ship was scudding along fast into a howling west wind. It was very cold and nearly dark. Invisible salt spindrift broke over the bow with a roaring hiss, and drenched everything on deck with a freezing spray.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

From the dunes of Frank Herbert to the chronicles of Thomas Convenant to the delights of Tolkien...

Experience ALL the best-selling hard-to-find Science Fiction and Fantasy you dare to imagine... in low-cost paperbacks.

If you crave the excitement and adventure of good science fiction and fantasy but hate waiting in line to buy your favorites...If you buy a lot but hate to pay expensive hardcover prices...If you want them all but don't want to join a book club ...It's time you discovered the **other** way to buy the bestsellers. A way that's quick, convenient and easy on your pocketbook—The Shop-At-Home Science Fiction and Fantasy Paperback Catalog!

Over 650 Titles to choose from!

If you shopped for months you'd never find the 100's of bestsellers you find in minutes in The Shop-At-Home Science Fiction and Fantasy Paperback Catalog. Robert Heinlein, Frank Herbert, Phillip Jose Farmer, Star Wars, Battlestar Gallactica...all the best science fiction and fantasy storytellers are here. Not just one or two of an author's titles, but everything in print! And the largest selection of popular adult science fiction and fantasy available. Over 650 titles in all, from hard-to-find to soon-to-be released. All in the most inexpensive paperback editions!

Having The Shop-At-Home Science Fiction and Fantasy Paperback Catalog is like having the bookstore come to you. Not just any bookstore. But one that specializes in out-of-this-world adventure! And unlike high pressure clubs there are no catches or rules. You buy any number of books when **you** want to buy them. No "automatic shipments" of books you never ordered but have to pay for!

Easy ordering, fast delivery!

Ordering from The Shop-At-Home Science Fiction and Fantasy Paperback Catalog is easy. You can charge books by mail or over the phone (for even speedier service). No waiting on out-of-stock titles...our giant inventory ensures prompt delivery. Right to your door, of course. And you pay only a minimum handling charge for the luxury of shopping at home—unhurried and hassle-free.

How to Order your Shop-At-Home Catalog Right Away.

To receive The Shop-At-Home Science Fiction and Fantasy Catalog, send $1.00 with the coupon below. Then sit back and prepare for excitement in the comfort of your armchair...at prices you can always afford. Shopping at home for bestsellers. Once you've tried it, you'll find there is no other way.

☐ I want to shop at home for best-selling sci-fi and fantasy at low paperback prices! Rush me The Shop-At-Home Science Fiction and Fantasy Paperback Catalog. I've enclosed $1.00 to cover postage and handling.

☐ Send me all five Shop-At-Home Paperback Catalogs —Science Fiction and Fantasy, Mystery, Western, Romance, and Fiction/Non-Fiction. I've enclosed $2.00 to cover postage and handling.

Name_____

Address_____

City_____State_____Zip_____

Mail coupon to:
BOOK MAILING SERVICE
Box 690 Dept A 4
Rockville Center, NY 11571

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Fathom Lavengro had darted on ahead of him. He saw her suddenly disappear from view. He followed shortly after, and descended another dark hatchway. The door at the bottom had closed automatically, and the companionway was unlit. Mike went down steadily, his hand on the rail, until the door at the bottom sensed his presence and swung open. He found himself in a suite of rooms that contrasted sharply with his own quarters. Underfoot was the vivid blue-green of euclypt carpet, growing from wall to wall, and the end of the room was one long serving area and autochef. As he stepped inside and looked around him, Fathom came through the low door on his left. She had removed blouse, pants, and sandals, and was naked except for a curious bracelet of linked metal tablets. She was towelling vigorously at her damp hair.

As he stared at her she nodded to him casually. "Damp out there, eh? Take your clothes off, grab a towel, and make yourself comfortable. I'll order us a couple of beers and some food."

Mike nodded at her vacantly, and went through the door she was pointing to. He was in a bedroom with a bathroom at one end and the wall completely taken up by a broad floor mattress.

"I said she liked the look of you," said Jack triumphantly in his ear. *"Starkers! Stripped bare before you even come in the door."*

Mike had picked up a big towel and thoughtfully begun to remove his clothes. *"Nobody told me people went around naked in the middle of Strine."*

"Some of 'em do, mainly the abos. It's not unusual here—but she sure as hell knows that Traders don't go around bare-assed. That's why I'm sure she has a letch for you."

Mike shook his head, dried himself, and stood motionless for a moment. *"What's the Strine penalty if a man makes a pass at a momma—one she didn't invite?"*

"Anything she wants—chopped to bits, staked out in the sun, castration." The Mentor sounded pleased at the thought. *"But there's no risk of that."*

"Quite right. There isn't." Mike headed for the door, carrying the towel with him. Suddenly he felt very comfortable. He knew what Fathom was doing. It was as though he were back in basic Trader training, listening to Lyle Connery's first lectures. "Basic negotation techniques: get a psychological advantage. Throw the opposition off balance. If they expect you to be angry, stay calm. If they negotiate only by moonlight, try to get them to do it at midday, in the full sun. If they hate to fly, hold the talks on board a plane. If nudity shocks them, take your pants off. And never forget: they'll be trying to do the same thing to you.'

Mike went back into the other room, walked across to the autochef, and took the flask of beer that waited there. He calmly looked Fathom over from sun-bleached hair to sinewy bare feet, aware of the fact that she was giving him the same objective scrutiny, then nodded toward the table. "If you'd care to sit down, I'll be happy to bring the food over as soon as we get the signal."

He was pleased to see her frown in surprise for a moment, before she nodded and went across to sit on a high stool at the table.

"You're cooler than I thought, sweet-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

heart," she said. "All right, over to you. What do you know that you think I want?"

End of Round One. Mike sat down opposite her. He could feel a tingly sense of excitement in his stomach. This was the real thing, something he had been rehearsing for over five years. The first negotiation. He tongued Jack Lester to minimum volume, so the Mentor could distract him only in an emergency. And he tried to ignore Fathom's sun-tanned naked breasts, two feet away from him.

"We have to feel our way into this," he said. "Otherwise whoever speaks first will be afraid of giving too much away. I suggest we tell each other initially only what we *think* we know. Then each of us can make corrections. That way you won't really be telling me something I don't already know, and the same for me."

She looked at him for a moment, her head on one side. "Why shouldn't I just wait until we get to Mainland, and have what you know beaten out of you?"

Mike said nothing. After a moment Fathom shrugged. "Oh, all right. Let's try it. You first."

"*Careful what you tell her!*" Lester's voice was like a distant screech in his ear. Mike frowned, and wondered if he was about to go too far. The information was Trader Confidential—but the chance that Fathom Lavengro already knew most of it was good. Why else would she travel to Orkland to have first contact with him?

"Stop me if I'm wrong," he began. "But I believe a modified euclypt has been developed in Interior Strine, somewhere near Musgrave. And we know what it can do." He gave her a summary of everything that had happened, from the time the bigmomma's body had been discovered in Ree-o-dee until his arrival on board the ship in Orkland.

"Naturally, we're interested in acting as Trader negotiators for any sale of rights," he concluded. "And as a first step, I need to know who controls the supply of the berries in Strine territory. From your appearance here, so far away from home, I assume you have more than a casual interest in them yourself. In fact, my first guess was that you're the key individual. Now, I'm not so sure. If you were in control, you could have sat there in Musgrave and waited for me to come to you."

Fathom had listened to him in complete silence. Now she shook her head. "Smart little bugger, ain'tcher? You're quite right—I don't control the Candlemass Berries. And I'm not from Musgrave. I'm from Alice, north of there. But I have to put you right on a few things. First, you'll not make a deal with the main producer of the berries—they want to do work direct with the Greasers. That would cut you out, and me too. The berries they ship from Musgrave are *all* sterile, so you need to get your hands on a supply of fertile ones. I think I can help you on that—if the deal is right. First, though, you have to fulfill your side of the bargain. You promised me information. You never told me the subject."

Mike nodded. "I will. From the way you've been behaving so far, you don't have much idea about the Traders—how we're trained, how we operate. If you did, you'd never have tried the corny bit with the sword." He looked at her

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

exposed body, and shook his head. "Tell me what you think you know, and I'll take it from there. You need information about Traders, even if the two of us can't strike a deal this time."

"Fair enough." Fathom frowned, her gray eyes shadowed by thick blond eyebrows. "Let's start at the beginning—I guess that was sometime just after the Lostland war? Anyway, before the five groups settled in place. We Strines were really isolated then, so all that early history is hearsay."

She went on to give Mike a fascinating but curiously distorted version of the power struggle of Yankees, Greasers, Chills, and Strines, and of the Chip move to space when the Heavenly Cloud of Lostland War fallout had made East Asia uninhabitable. According to Fathom, the passage of the cloud across northern Strine had stimulated the rapid rate of new species development there, and been the main cause for the growth of the secret biolabs in the Strine Interior. And the Traders had taken advantage of the general chaos.

"You Traders saw a chance and jumped in," she said. "You had an old, puritanical, moralistic society, and you argued moral authority to become the intermediaries for all negotiations between the power groups." She paused, disconcerted, when Mike laughed out loud. "What's so funny?"

"I've heard the Traders called a lot of things—but puritanical and moralistic are new ones to me. Is that why we're sitting here with no clothes on, so I'll be too shocked to think straight? Fathom, you've got the whole thing backwards. Everybody ought to know we're just Traders, in the game for what we can get out of it. Commercial, yes. Puritanical, forget it—I'll tell you Trader yarns that would make your hair curl. But you have to learn one central thing about us: when we strike a deal, and tell you we'll work with you, we stay bought. And anything you tell me under Trader Oath never goes any farther. Never, ever—not even if people try to torture it out of me. Our conditioning would make us die before we talk."

They had slowly munched their way through the meal offered up by the autochef—barbecued mutton on a dish of cultivated saltbush seeds. It had been alien to Mike and quite unpleasant, but his Trader training allowed him to tackle any food he was offered without complaint. He should probably count himself lucky—Jack Lester had told him horror stories of the roasted 'tremes offered as food (bills, feet, and all) in some parts of Interior Strine. Now he pushed the plate to one side, and stared directly into Fathom Lavengro's eyes.

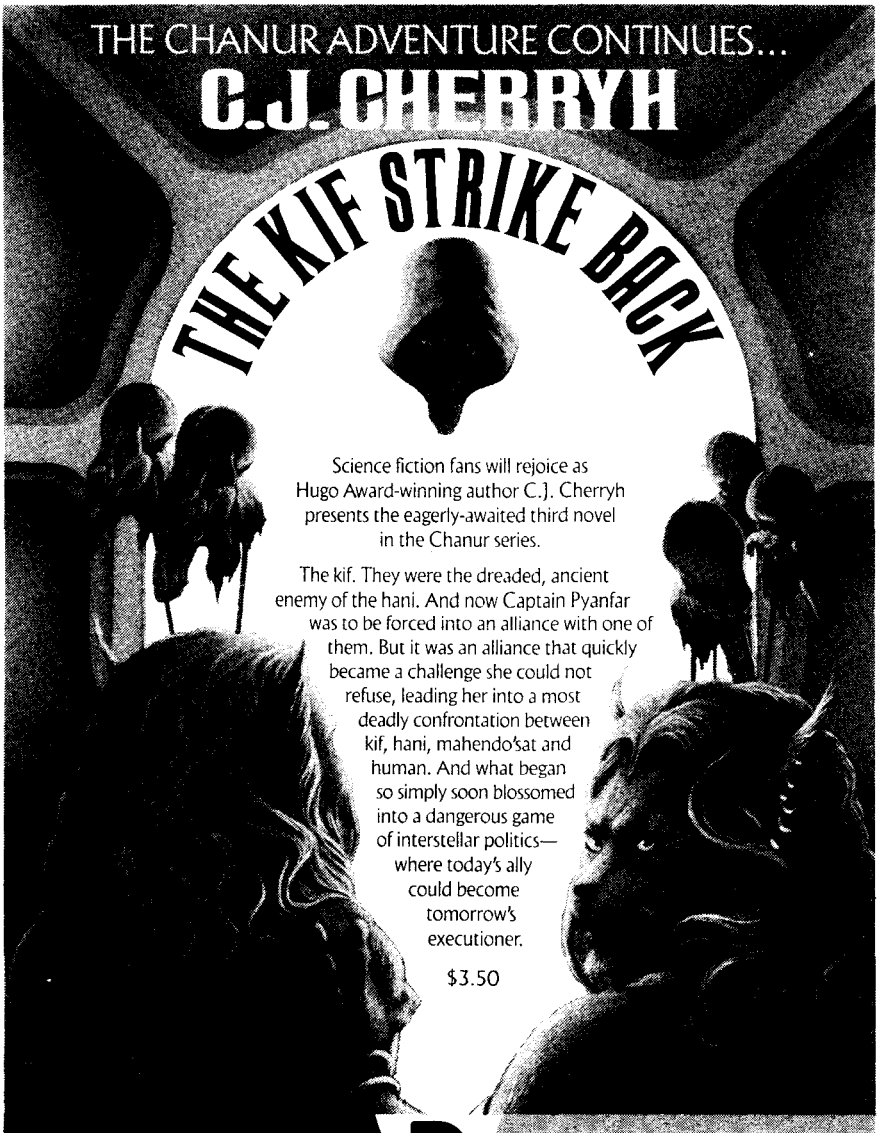
"And I'm a Trader. Do you want to make a deal?"

She sat staring at him for a moment, her cheeks flushed. Finally she nodded. "I guess I do. Let me tell you what I can do for you, then you do some thinking about how much that's worth. I won't do it cheap."

"Whoo-ee! There you go, partner. She's hooked." Jack's voice was an excited shout in Mike's ears. *"But watch your step when you try to haul her in. If I know the Strine mommas, she's angling for some agenda of her own—we have to find out what it is."*

"I know. I'll do some thinking about that later." Mike nodded at Fathom. "Tell me your deal."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED


THE CHANUR ADVENTURE CONTINUES...
C.J. CHERRYH
THE KIF STRIKE BACK
Science fiction fans will rejoice as Hugo Award-winning author C.J. Cherryh presents the eagerly-awaited third novel in the Chanur series.
The kif. They were the dreaded, ancient enemy of the hani. And now Captain Pyanfar was to be forced into an alliance with one of them. But it was an alliance that quickly became a challenge she could not refuse, leading her into a most deadly confrontation between kif, hani, mahendo'sat and human. And what began so simply soon blossomed into a dangerous game of interstellar politics—where today's ally could become tomorrow's executioner.
$3.50

The Exclusive Science Fiction and Fantasy Line Selected by DONALD A. WOLLHEIM

DAW
SCIENCE FICTION

Distributed by NAL
NEW AMERICAN LIBRARY

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Here's what I can do." She leaned close, her face only a foot away from his. "I can get you to the Interior—fast, and safe. Instead of going in through BigSyd we'll leave this ship on auto and take the hydrofoil launch. That'll bring us along the coast to Eucla, down along the Nullarbor Plain. I have a plane there, and we can fly straight up to Musgrave. Second, I'll introduce you to the momma who controls the Candlemass Berries. That ought to be worth a lot."

Mike nodded. "It will be. I have to think about terms, but don't worry. Trader's Rule: A deal that's not good for both sides should never be signed. Let me do some figuring tonight, and we'll nail down the details in the morning."

He rose to his feet and began to move back to the bedroom to collect his clothes. To his surprise Fathom at once stood up and followed him. She put her arms around his waist and moved into close contact with him, rubbing herself gently against his back.

"You need to learn Strine customs. If we're going to work as a team, we might as well operate as one." She spoke softly in Mike's ear, her hair fine-spun on his neck and cheek. "I don't know Trader ways, and I doubt you know Strine ones. It's time we both learned."

Mike heard Jack's wild cackle of triumph in his left ear. *"I knew it! I told you she fancied yer—get in there. Remember, though, let her make the moves."*

Mike turned to look at Fathom, her eyes wide and pale in the dim light. Intimate contact, with running commentary from Lover-boy Lester? No way. *"Good night, Jack,"* he whispered, deep in his throat. *"Maybe some other time, but not now."*

As he tongued to sever the Mentor connection, he heard Jack's howl of rage and supplication: *"No, Mike, don't cut me off. We're a TEAM! For God's sake, we're in this TOGETHER—"*

"There it is, sweet baby," said Fathom softly. "Doesn't that feel nice? Come to momma."

"—partners! Mike, we're PARTNERS—"

The cabin was warm and dark. The ship surged west through rising seas.

Fathom Lavengro kept her promise. The entry to Strine was both quick and simple. And within thirty-six hours Mike had his first sight of a killer Strine.

Fathom's aircraft had made an unplanned stop on the way from Eucla to Musgrave. "Brickfielder up ahead," Fathom had said, from her seat in the front of the plane. And without another word she had put on her headset and directed the onboard computer to bring them down to a fast landing from five thousand meters.

"What's she talking about, 'brickfielder'?" whispered Mike.

"Dust storm," said Jack Lester's scratchy voice, after a moment's silence. It had taken him a day or so to forgive Mike for cutting him out of sensory contact the first night, but by now his natural cheerfulness was reasserting itself.

"This time of year, you get brickfielders around here—hot, dry dust storms out of Interior Strine. We ought to be able to fly above it, or through it on instruments, unless it's a really bad

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

one. I don't know why she's bringing us down. So keep your guard up, there might be a trap here. We're a long way south of Musgrave, too far for this to be Cinder-feller territory—but I can't be sure of that, either." Lester's voice had a strange, dry crackle to it, as though it were being electronically filtered during transmission.

"*Speak up. I can only just hear you,*" said Mike. "*How long are we likely to be stuck here on the ground?*"

"*No idea.*" Jack Lester's voice was fainter than ever.

They slid to a halt in the middle of a single dirt runway. While Fathom was busy in the cabin with radio communications, Mike climbed down from the plane and wandered off to the edge of the landing field, to stare at the flat ochres and purples of the surrounding eroded hills. Jack Lester had been quite right when he described Interior Strine. There was a primitive feel to the land, a timelessness that could not be expressed through any training sessions.

While he watched, a silent file of dark figures came trotting around the landing field perimeter. They were all males, each no more than four feet tall, with thin legs and powerful torsos. "*Haploid abos!*" said Jack. Mike nodded. The men were hairless, with impassive, unlined faces and dusty black skin. They each wore a light one-piece garment of fine metallic mesh, and carried a silver-blue attack tube. Though they passed within fifteen meters of Mike, they appeared to take no notice of his presence.

It was hard to believe that these squat little men were the most formidable fighters that the planet had ever known. But Mike knew it was true. He had seen the Trader videos. In one of them, an unarmed haploid abo had tackled a pair of trained attack dogs, and killed them both bare-handed; in another an abo swimming off-shore north of Strine had been attacked by an eighteen foot white shark. The naked abo had lost a foot and three fingers, but within fifteen minutes the disembowelled shark was threshing helplessly in a widening cloud of its own blood.

"*See how light they travel,*" said Jack faintly. "*They never carry food or water. They can live off the land anywhere in the world. . . .*"

Jack's voice dwindled to nothing, and there was a sudden burst of random noise in Mike's ear. He frowned, and listened intently for a signal from the Mentor. "*Jack? Are you all right, Jack? I'm having trouble hearing you.*"

There was another burst of static, from which a recognizable tone gradually emerged. "*. . . I know. Same at this end.*" Jack's voice was variable in pitch and volume, and barely intelligible. "*Didn't mention it before, but we've been having communication problems with you for the past few hundred kilometers. Here on the ground it became worse all of a sudden. Far as we can tell, there's an active signal-jamming system in use in this part of Strine. Gets stronger, the farther you go. Daddy-O has been jockeying frequencies and filters to keep us in touch, but if this keeps up we're going to lose contact. . . .*" The voice in Mike's ear faded again, then Jack came back fainter than ever. "*We've been taking everything from you in real time, feeding it to me and Daddy-O. If I cut out completely don't forget to use your record-*

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ing sphere as much as you can. The TRS will be the only record we'll have. Matter of fact, maybe you should start now. The images I'm receiving from your optic chiasma aren't in color any more. We're at the edge of tolerable signal-to-noise ratio. . . . Good luck. . . ."

There was a series of clicking burps, followed by a buzz of white noise. Mike sat at the edge of the landing field, staring vacantly ahead of him. He bit hard on his lower lip. *No mentor!* Several times since the mission began he had cursed the authorities who had assigned Lover-boy Lester to him. Now, without that jaunty and irrepressible voice in his ear, he realized how reassuring Jack's hidden presence had been.

Almost without thinking, Mike took the TRS from the pouch at his waist and set it in imaging mode. His Trader training insisted on its importance. *Trader's rule: make a continuous mission record.* After he had first cut Jack out of the circuit, even at that intense moment Mike had fumbled in the darkness to turn on his TRS for sound and video. He had been very aware of its presence for only a minute. And if the knowledge had subconsciously affected him, Fathom had apparently found no cause for complaint.

Mike checked the direction of the TRS lens systems. Off to his left, the line of haploid abos was trotting steadily toward the horizon—or what should have been the horizon! As Mike looked, he realized that the far distance was a single, endless wall of dull rust-red haze. Land and sky merged seamlessly together.

"I guess Fathom Lavengro isn't lying about the brickfielder, whatever else she's been lying to me about," said Mike softly to the TRS. He began to hurry back towards the plane. It didn't seem like a good time to be outside, unprotected, even though the haploid abos were heading straight for the dust cloud to the north.

Did they know what they were doing, running directly at a storm?

The low, flat foreheads and dwarfed cranial capacity supported the average IQ of sixty-five usually assigned to the haploid abos. But their uncanny skill in combat, plus the ability to draw food and water from the most unpromising environment, suggested that their intelligence was not measurable by the usual methods. If a haploid abo could survive on the Chill icecap without clothing or weapons, in the Grand Erg Oriental without water, in the Strine northern badlands without radiation treatment—all circumstances that would mean certain death to Mike—who should be assigned the higher intelligence? Mike climbed back into the plane and closed the door securely behind him. Although it was only mid-afternoon, the sun had disappeared and the northern sky had darkened to an ominous dried-blood red. At the front of the cabin, Fathom was still crouched over the commset, ignoring Mike completely.

He went to sit quietly in the back of the aircraft. If she were not genuinely worried about the coming storm, then what *was* she doing so busily? Mike could not even produce a plausible guess. For the past day or two Jack Lester had insisted that some deep Strine plan was in effect, something that Mike and the Traders knew nothing about; but he had been unable to make any sug-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

gestion as to what it might be. Mike was equally baffled. The only evidence supporting Lester's point of view had come from Daddy-O. According to the Trader master computer, the destination chosen by Fathom did indeed have a bigmomma boss there: Cinder-feller, Fathom's own sister, could be found at that location. So was *she* the momma who controlled the Candlemass Berries, and therefore the source of Velocil? Or was some other game being played between the two of them? Trader rumors insisted that those bigmommas were deadly rivals, enemies who would rather feud than cooperate on anything. They could not normally even enter each other's territory. And other Trader sources insisted that Cinder-feller had been left hideously mutilated by her accident, so that she would never meet with anyone from the main power groups. Did that reluctance apply to Traders, too?

Trader's rule: assume everybody is lying for his own reasons—including us.

Was *anyone* telling Mike the whole truth?

Not Fathom, that was fairly certain. She claimed to know far too little about the Traders in some areas, and gave away far too much in others *(how had she known about Daddy-O?)*. And on the first night, after she thought that Mike was soundly asleep, Fathom had carefully and quietly searched through all his belongings. What she had found apparently satisfied her. She had returned to his side and quickly fell asleep herself. Mike had taken a detox pill before they ate, as an elementary precaution against accidental or purposive food additives. He had remained fully awake. But he still didn't know if Fathom be-

SPIRAL ARM

Spiral Arm is our latest play-by-mail game of strategic galactic conquest. Designed by The Australian Wizard, Spiral Arm features a map of over 650 stars, up to 50 players per game, economic production, 7 ship classes, 8 racial types, 4 modes of space movement, space and planetary combat, colonization, and technological development. You can name your Empire and new stars. The customized turnsheet is in a convenient "fill-in-the-blank format" for easy use in submitting orders.

Costs: *Rules $2.50*
Turn fees: *$4.50 per turn*
Game Entry: *$15.00*
(Set-up and 3 turns)

FEUDAL LORDS

Feudal Lords is our original, and most popular, play-by-mail game of medieval power politics. Fifteen players struggle to become King of England after the death of King Arthur by means of medieval economic development, military conquest, and diplomatic intrigue. Feudal Lords features agriculture, trade, knights, mercenaries, ships, bribes, spies, and much more.

Costs: *Rules $2.50*
Turn fees: *$3.00 per turn*
Game Entry: *$10.00*
(Rules, set-up, and 3 turns)

For further information on our games, write to:

GRAAF SIMULATIONS
27530 Harper
St. Clair Shores, MI
48081-1924

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

lieved his sleep was natural, or if she had taken a hand in it with the aid of the autochef.

Mike thought back to the abos he had just seen, and wondered again about the new Dulcinel Protocol. It had been developed and used in Interior Strine, though not apparently in this region. Lyle Connery had spoken of a technique to decrease malignant growths, but several of the haploid abos he had just seen, probably because of exposure in the northern badlands, were suffering prominent tumors and radiation scars. And others were missing fingers and toes. Apparently there were practical limits to what the new Dulcinel Protocol could accomplish in wound-healing. Or was it possible that the new protocol could not be applied to a haploid abo, just as the old one could *only* be given to the abos?

Fathom had finally finished with her intent exchange of messages. She stood up and came to the rear of the cabin where Mike was sitting in deep thought.

He lifted his head and looked up at her. It occurred to him how little, in spite of all his briefings and studies, he knew of Strine culture. What was their music, their dance, their literature? What were their motives and ambitions? He had no idea. They were the real outsiders, separated from the rest of the power groups by geography, history, and preference. Back in Trader headquarters it was easy to say "Strine," and to imagine that the single noun described the whole group. But Jack Lester had pointed out to Mike how dangerous that simple-minded view might be. The Strines were many groups, fiercely independent and competitive with each other. It was only in the face of a greater threat—from the other power groups—that the Strines would ever behave as a unit.

Fathom squatted easily in front of him. She shook her ash-blond head. "Bad news. I checked the stations north of here. The brickfielder extends a long way, right past Musgrave."

"Can't we fly over it? What's the altitude limit on the aircraft?"

"Forty thousand meters. Sure, we can fly *over* it easily enough. What we can't do is land at Musgrave without ruining my plane's engines. I know this dust. It's like grinding powder on machined surfaces."

Mike looked out of the window. The red wall was nearer, towering from ground to heaven just a few kilometers away. "So what do we do? Wait here? —or head out north on foot, like the abo warriors?"

Fathom smiled at him, and reached out to rub her hand along his cheek. "Wouldn't mind waiting here with you, sweetie. But we can't spare the time. And don't ever suggest trying to go near the abos here in the Interior. There's no food or water in the open desert."

"They seem to manage all right."

She gave him a strange, half-amused look. "Yeah. Know why? They manage north of here because anything they find—anything at all—is food and drink." She massaged his arm, feeling at the muscle of biceps and triceps. "You have a nice body, Trader Asparian. I appreciate it. So would they. Out in the wilds you'd be a nice long drink and forty kilos of convenient protein. You're safe here, because they're programmed not to touch anyone near the

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

airfields. That doesn't apply in the outback. So forget the idea of going anywhere on foot."

Mike took a deep breath. "It's already forgotten. But what will we do?"

"Take off now and fly right over the top, past Musgrave. The dust storm ends short of Alice. We can stay above it and land at my home base. Then we can come *south* again overland, following the tail of the storm." She stood up straight. "Come and sit forward. You'll see something worth seeing when we reach Alice."

The wind at the airstrip was rising steadily, hitting the plane in hard gusts. The aircraft took off to the north and at once set in a tight upward spiral, gaining height rapidly. The dark-red wall of the brickfielder at first looked topless, only a few kilometers away.

Seven thousand meters: Mike suddenly saw the sun again. It was rusted and weary, sitting in a boil of brown-red smoke. *Nine thousand meters:* They were above the storm. They turned to fly north over a flat, featureless plain of windborne dust, stretching away endlessly in front of them. Only the airspeed indicator told them they were speeding at Mach Four across Interior Strine.

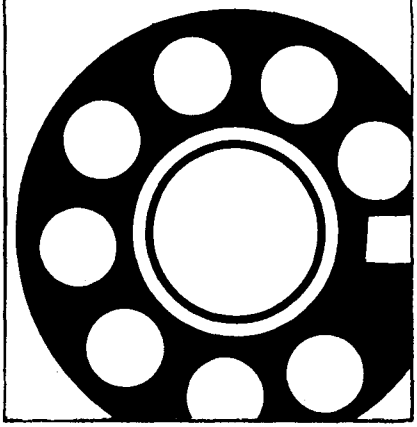
Mike had placed the TRS unobtrusively by his side, where the imaging system would have full view through the forward window. Despite Fathom's assurance, he was finding the view rather boring. And as he was reaching that conclusion, there was a dramatic change. The dust cloud below them suddenly vanished, cut off cleanly along an east-west line.

Mike leaned to his right and peered

SOLVE
A GIFT
PROBLEM
THE
EASY
WAY!

You can't beat this for a great, money-saving idea. ONLY $11.97 will bring a friend or relative 8 issues of Analog: Science Fiction/Science Fact.

Dial
TOLL-FREE
1-800-247-2160
(in Iowa 1-800-362-2860)



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

out through the side port. He could see the ground again. The dusty, treeless terrain that had persisted beneath the aircraft all the way from their Strine entry at Eucla to their recent unplanned stop was gone. In its place Mike saw a pattern of textured bluish-green circles, their centers laid out on a regular triangular grid.

"Know what those are?" said Fathom. She was turned toward him, leaning back in her seat with her eyes half-closed.

Mike shook his head. "I don't. My first thought was a plantation of trees, where we were looking down on their crowns. But then I realized how high we are. Each of those circles must be over a kilometer across. And it looks bone dry down there."

Fathom turned away. She smiled, but it was somehow directed inward, for herself and no one else. "Your first guess was right."

"Trees—that big?"

"Trees. They were developed here, in my labs, and they grow nowhere else. Multiple trunk, like a banyan, but much more productive—food and timber. We're flying over a Double-X plantation. Average trunk diameter is thirty meters."

Mike realized that Fathom had changed. Previously there had been an underlying tension, well-controlled but always there. He had not noticed it, because he had no basis for comparison. But now, seeing her fully relaxed, the difference became obvious. Fathom was back in her own territory, in an environment where she was in full control.

"Double-X?" he said.

"Shorthand." Fathom had hit a new control sequence, and they were dropping off altitude at an alarming speed. "Stands for 'Xerophytic Xyloids'—male tech-talk, gobbledygook for plants that can get by without much water and produce lots of wood. You'll see them close up when we head south. They grow right down to the border with the Musgrave territory."

Mike nodded, but did not speak. "Male tech-talk"—was that a significant comment, even if an unintended one? Did males do all the technical work in the biolabs—as well as providing all the human test subjects for experiments? While the aircraft lightly touched down and skidded to a halt, Mike thought again of one of Lover-boy Lester's less cheerful pronouncements: *"Don't get inflated ideas of your own value, boyo. And be careful. In the Interior, the mommas use men as trading tokens. And torture is considered one of the fine arts."*

He surreptitiously re-tested the communication channel with Daddy-O and Jack Lester. Still blocked. There was nothing but static. Mike was on his own.

When the world had looked as though it would end in all-out nuclear war, the Strines had sought safety underground. Once developed, the taste for below-ground accommodation had never left them. Deep structures permitted far better temperature and humidity control, and that was important in Interior Strine to everyone except the haploid abos.

Although Mike knew the facts, it still came as a surprise to look out at a region populated only by scrubby acacias, wattles, and grasstrees, and be informed

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Space to Live

We live in a science-fiction world. Space is no longer just the playground of a writer's fertile imagination. Space has become a desirable environment in which the hopes of all humanity may be realized. Membership in the L5 Society represents your commitment to launching these hopes. Your individual participation is essential to help us develop this new reality.
$25 annual membership

Space for Everyone to Live, Work and Play!

L5 Society / Dept. DV / 1060 East Elm Street / Tucson, Arizona 85719

A public service announcement

Artwork by Mark Maxwell

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

that he was seeing the main biolabs and residential area of Alice.

He was given no time to explore the underground. Fathom had paused in Alice only long enough to collect a beetle-browed, powerfully built guide known as Banjo, then they were in a ground car and heading south. After an hour's drive the car stopped and Fathom got out.

"I won't be coming the rest of the way," she said, to Mike's surprise. "Banjo will take care of you and get you to the transfer point. I'll see you on the way back, when you're all finished."

Her manner to Mike had changed. It was cool, with no trace of affection. But was that for Banjo's benefit? Mike had no way of knowing. He settled back in his seat and looked around him.

They were speeding along a straight asphalt road that ran through an avenue of the Double-X trees. Each of them was like a full grove, towering a hundred and fifty meters from the sun-baked plain. No other plants grew in their shade, and the ground beneath them showed no pattern of sunlight diffracting through leaf spaces. The tree structures had been genetically designed. They captured every available erg of incident solar energy, and used it to produce polysaccharides—starches, sugars, and cellulose.

Who was Fathom's chief bio-engineer, the genius behind the Double-X trees? Banjo could not say—or would not. Communication with him proved almost impossible. Mike could get a few monosyllables in answer to some of his questions, and that was all.

But when he asked why Fathom had not come with him, he received a harsh, grunting laugh as the first response. And then Banjo's longest speech of the trip. "Fathom Lavengro? To cross the Musgrave border? Man, that's real funny. You know what Cinder-feller would do, if Fathom come inside that territory? Cut her up for dingo dinners." He slapped a scarred brown hand on the car's steering-wheel. "Those two don't see each other any more, *ever*. Don't you know it, sport?—they hate each other's guts. Just look ahead there. That's to hold 'em apart."

They were approaching a barbed wire fence, with a solid gate set into it where the road ran to meet it. Another ground car sat waiting at the other side of the gate. The trees had ended five kilometers back, and the land ahead lay scorched and barren in the hot sun. Two haploid abos stood about a kilometer away, looking at each other from opposite sides of the fence. As the car approached they both ran with incredible speed to the gate and stood quietly by it.

"All right, man, here we are. Come on." Banjo stepped down very carefully, gesturing to Mike to do the same. "Take hold of this piece of leather, and let 'em see it. It's your identification. I'll come with you to the car, make sure the driver is there—should be a young momma called Sweet Pea. Don't try to talk to her, 'cause it's a waste of time. She's a deaf-mute, works directly for Cinder-feller. I'll be waiting here when you come back. If you're more than two days, have one of Cinder-feller's people send a message back here."

The abo guard took the identification that Banjo held out to him, rubbing it

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

between his finger and thumb. He shuffled all the way around Mike, sniffing at his feet, genitals, and hair. After doing the same to Banjo, he opened the gate. The haploid at the other side repeated the procedure, then led them to the car. Banjo nodded his greeting at the dark-haired woman sitting within, and allowed himself to be escorted back through the gate.

Mike climbed into the passenger seat and looked curiously at the driver. Sweet Pea was young, no more than twenty years old, with a flawless, creamy complexion and shining black hair; and she looked as out of place in Interior Strine as Mike felt.

She nodded at Mike, her dark eyes friendly. After a few moments she suddenly pressed the accelerator to the floor. The car started in a cloud of dust, then raced southward along another section of the same arrow-straight asphalt road.

The silence was fine with Mike. He wanted to wrestle with a puzzle of his own. Fathom and Cinder-feller Lavengro never went to each other's territory, according to Banjo (and did *he* have his own reason for lying?). So Fathom had never *intended* to land the aircraft at Musgrave—would not have been allowed to do so. Therefore her earlier statements about their travel plans must have been a lie. She could not have conveniently created the dust storm—but she could have known all about it long before it happened. The Chips offered a space-borne weather monitoring system that gave at least seventy-two hours notice of major storms and wind patterns. So Fathom might have included the brickfielder in her advance plans. But *why?*

At that point, Mike was stumped. Fathom was using him, he was increasingly convinced of it. But *how?*

Mike sighed to himself. Why, how—he was building up questions much faster than he was answering them. The inside of the car was very hot, and he had not slept for twenty-four hours. *Trader's rule: Food, drink, sleep—take them whenever you have a chance.*

He lay back in his seat, placed the TRS where it could take a panoramic recording of their surroundings, and closed his eyes.

When Mike awoke it was deep dusk. The car had slowed down and turned off the smooth road, and the sudden jolting had shaken him out of a heavy sleep. He stretched, moving his shoulders to ease cramped back muscles.

The driver had noticed his movement. She gave him a quick sideways look.

"I hope that your sleep has rested you," she said, in a precise, slow voice.

Mike stopped in mid-stretch, and turned to her in astonishment. "You're not Sweet Pea?"

"Yes, I am." The voice was carefully produced, with rather exaggerated lip movements.

"But Banjo told me—" Mike stopped in confusion.

"That I could not hear or speak?" Sweet Pea's face lit with an uncontrollable joy. "Once I could not. Now, I can do both."

Mike waited for more explanation, but none seemed to be forthcoming. Instead, Sweet Pea nodded ahead of them, to a glow of ruddy lights against the flat

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Strine skyline. "Two more minutes, and we will have arrived at the main Musgrave labs." She turned her elegant head, to give him a longer and frankly curious stare. "I do not think that there has ever been a Trader here before. Certainly not since I have been here. Is it true what I have been told, that a Trader has no home, anywhere?"

"In a way it is true." Mike wondered how many false rumors they had been told about Traders—and how many false facts he "knew" about the Strines! "We negotiate all around the world," he went on. "And up in space also, when the Chips need to work out some new energy contract with one of the groups on Earth. We do not think we have no home. We feel that we are at home everywhere, in any place where there is trading and negotiation to be carried on."

As he spoke he held the TRS unobtrusively on his left hand, to record the sight and sound of Sweet Pea, and the scene ahead of them. They were descending a long, steady slope, and at its bottom Mike saw something that he had never expected to find in Interior Strine: the reflection of lamps in still water. The lake was several kilometers across, filling the central part of the valley. He looked carefully for any sign of buildings along the lake shore, but could see nothing in the deepening dusk.

"So much water!" he said to Sweet Pea. "I did not know a lake like that existed anywhere in the Interior."

"It is the only one." She had allowed the automatic control system to take over again, and it was bringing the car gradually toward the lake side. "Because of this, we have the richest territory in a thousand kilometers. That is true even without the biolab products. And our labs are the best."

There was pride in the carefully enunciated words. Mike leaned forward to take a closer look at the lake, but as he did so the car turned left and went into a culvert that quickly became a broad tile-lined tunnel. They spiraled downward, and finally stopped in a long underground garage where scores of road vehicles were lined up ready for use. They got out of the car, and Sweet Pea walked with Mike to an elevator. When the lift arrived she motioned for him to enter and pressed the button for it to ascend. She remained outside.

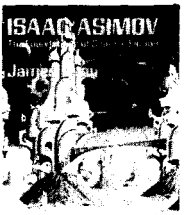
"Just a minute." Mike held the door open with one hand. "I don't know where I am in this place. What happens when I get to the top?"

Sweet Pea smiled. "You will meet with Cinder-feller. These are big-boss private quarters. Is not that the reason why you came here?"

The elevator door closed before Mike could answer, and the car began a leisurely ascent. The doors finally opened into a room maybe thirty meters long, oppressively hot and humid, with a high vaulted ceiling. The far wall was one great sheet of curved glass. Beyond it lay the waters and bed of the lake, artificially lit so that an observer in the room could follow events many meters away in the clear water. Even as he walked forward to marvel, Mike realized instinctively that he was witnessing an act of technical bravado. In one of Earth's driest regions, Cinder-feller Lavengro was allowing her visitors to look out on a priceless treasure—millions of cubic meters of fresh water.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Discover the Facts Behind the Fiction



Heinlein, Asimov, Stapledon, Wells—what made these great writers produce their astonishing works of fiction? What events in their own lives shaped their visions of the future? What cultural and scientific changes influenced them? And what do their sometimes bizarre tales really have to say?

Now you can gain a deeper appreciation of the work of your favorite authors with the **Science Fiction Writers** series. Find out:

- How a stormy adolescence set against the cataclysmic 1930s caused Isaac Asimov to embark on the *Foundation* series
- How a case of tuberculosis and an ad in *Thrilling Wonder Stories* launched Heinlein's writing career
- How Darwin influenced H.G. Wells
- How Olaf Stapledon's richly inventive but difficult fiction influenced Arthur Clarke, Poul Anderson, Kurt Vonnegut and many others.

Each volume in the **Science Fiction Writers** series treats an author of distinction. Together the volumes do full justice to science fiction as a pervasive force in western culture.

Special Offer!

To: Oxford University Press
Dept. ECAB, 200 Madison Ave., New York, NY 10016

Please send me:

Isaac Asimov: The Foundations of Science Fiction by James Gunn
☐ cloth $18.95 ☐ paper $6.95

Robert Heinlein: America as Science Fiction by H. Bruce Franklin
☐ cloth $22.50 ☐ paper $4.95

The Science Fiction of H.G. Wells by Frank McConnell
☐ cloth $22.50 ☐ paper $4.95

Olaf Stapledon: A Man Divided by Leslie Fiedler
☐ $19.95 ☐ paper $7.95

Order 2 or more books and get 20% off list prices

Name _____

Address _____

City _____

State _____ Zip _____

I enclose my check/money order for $_____ *(Please add appropriate sales tax.)*

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

The interior of the room was very dimly lit, and it was not until he was halfway to the glass wall that Mike realized there was another person present. Off to his left was a long dark table, and beyond that a low sofa. And on that sofa sat a dark figure, swathed in tasseled blankets and thick quilts. "Did you know," said a sweet tenor voice, "that in this region a man's life is often worth no more than twenty gallons of water? How many men do you think you are looking at now?"

He turned toward the sound, and peered curiously at the seated figure. The voice was oddly androgynous, and he was not sure if a man or a woman was addressing him. Whichever, the swaddling blankets and gaudy patchwork quilts were draped around a grotesque being. He was looking at a person of enormous size, maybe as much as two hundred kilos. It was impossible to tell where flesh began and ended in the rippling folds of garments. Long tresses of brown hair showed below a gray cowl, worn forward to shadow the brow and eyes. The mouth was wide and thick-lipped, with a purple hue beneath its vivid red. The bulging cheeks were pale and gleaming with sweat.

Mike stepped up to the table. "You are Jinjer Lavengro?" he said.

The tenor voice chuckled. "Why, yes, I suppose that I am. Though no one has called me Jinjer for many years. Do as the others do, and call me Cinder-feller. And I will dispense with ceremony, and call you Mike. All right? That way, we can forget the nonsense and get right down to business."

One thing that a Trader education included was the business rituals of different power groups. Before serious discussions began, the Chips served tea, the Yankees alcohol, the Greasers dope, and even the Chills offered their cups of warmed liquid seal fat. But now it occurred to Mike that no one had ever told him what the Strines did. The answer was now obvious: they did nothing; they observed no polite overtures. Fathom had been just as abrupt as Cinder-feller.

He thought for a moment, then nodded. "Let's talk business. I have come a long way . . . and it was not to see the sights of Interior Strine. If you are ready to begin, then so am I."

"Very well." Cinder-feller drew in a long, snorting breath. "It is late, and you must be tired. But at least let us clear some ground tonight. I think there are illusions to be dispelled—perhaps on both sides." There was a movement of the massive form, and the creak of the sofa beneath it. Cinder-feller nodded at a container of dark fluid and glasses, sitting surrounded by dishes of sticky-looking confections on the table in front of Mike. "Eat and drink, if you wish. For my part, I will refrain from food tonight and promise you a banquet tomorrow. I would like to begin with my own questions. Your turn will come."

How old was she? Or *was* it she? Mike realized that he had never heard Jack Lester mention the sex of Tommy Lavengro's younger child. The voice gave no clue. He tried to see any outward sign of the deformities inflicted by Cinder-feller's accident, but the only flesh visible was nose and cheeks, and those appeared unblemished. The drapes and shawls could hide almost any in-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

jury, even the loss of an arm or leg. "Continue."

"We begin with a surprise," said the cloaked figure. "A surprise for me. You are truly Mikal Asparian, of the Society of Traders. Your chemical signatures confirm it, and we know of no way that they can be counterfeited. I was convinced before you arrived that you would be an impostor."

"Didn't you receive advance notice from the Traders of my arrival?"

Again, Cinder-feller gave a fatty chuckle. "Indeed we did. But I did not expect that you would come to me by way of *Fathom's* territory. After all, she has been trying desperately to work her spies in here for the past four years. Dispose of you, and put her own agent in your place—what could be easier? There would have to be an unfortunate accident in Interior Strine. But that would be easy. I could see the logic for that . . . I even anticipated it. When I received word of your approach, the natural assumption was that you were another clumsy attempt at espionage. I was prepared to eliminate you at once, as I have done for twelve other attempts. But no. You are truly a Trader."

As Mike's eyes adjusted to the gloom he could see the beads of sweat that stood on Cinder-feller's cowled brow and along the thin nose. He could feel a matching rivulet making its way down the back of his neck. "Perhaps I am being obtuse," he said slowly. "I can see no logic for what you are saying. I entered Strine with the help of Fathom, certainly; but I see no way in which my visit here can benefit her."

Cinder-feller poured two glasses of the dark fluid and pushed one of them toward him. "That is only because you are a stranger to our land. Fathom cannot penetrate this territory. Accept that statement as truth, and believe me when I tell you that she desperately wishes to do so. And she knows that we have many bioscience developments that she wants—despite her pride in the Double-X plantations, we have new organisms that make those look insignificant. I have bio geniuses here, unlike anything else in the whole world. She knows it. She covets my knowledge—and she knows that I would never sell it to her. So, how will she get the information she wants?" The great shoulders shrugged. "She has tried one approach: sending in spies. Not one has made it past the border. Now she seemed ready for another: sending an impostor, pretending to be a Trader. That assumption on my part proves to be false. So now I have another thought." The massive body leaned forward. "Fathom wants the use of a pair of eyes and ears to tell her all they can about my labs. You could be those eyes and ears."

Mike shook his head. "No torture ever pulls information from a Trader. Our indoctrination assures that—and Fathom knows it."

"And I know it also." Cinder-feller gave a deep sigh. "I have tremendous admiration for the Traders. Tomorrow you and I will set up the basis, I hope, for our long-term relationship. But torture is not the only way. You are planning to return through Fathom's territory, I assume?"

"That was our arrangement."

"Then let me ask you one more question. Where is your Trader Recording Sphere?"

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Mike felt a prickle of apprehension run along his nerves. To hide his feelings he leaned forward and sipped at his filled glass. Alcohol, plus a hint of heroin—and what else? Whatever it was, at the next opportunity he would quietly feed himself a detox pill. But what should he do for the moment—admit to the existence of the TRS, or try to deny its existence?

It was an easy question. Mike reached into his pocket, with its one-way membrane to permit passage of light signals, and pulled out the TRS.

Cinder-feller stared at it curiously. "A little larger than I expected. May I?" One pale hand came forward and took the TRS from Mike. He saw the dimples of knuckles in a fatty paw, and the pudgy, soft digits. But despite its grossness it was perfectly formed, with no sign of injury or disfigurement.

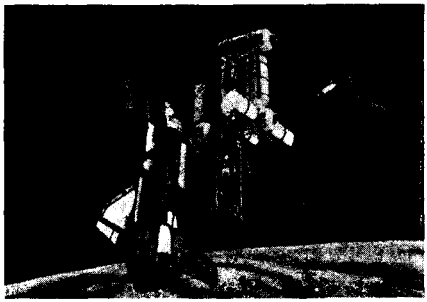
"What would you say, Trader Mike, if I told you that all Fathom's actions have been devoted to a single objective? She wants you to visit me and my territory, and then leave Interior Strine via *her* territory. She doesn't care if you are alive or dead when you reach her —because what she wants is *this*." Cinder-feller handed the TRS back to Mike, and sipped thoughtfully at the full glass. The purplish mouth smiled a little at his expression. "The complete record of your visit here. If you have swallowed it, no matter. She will slit open your belly and cut it out of you with her own hands."

"She could do that," said Mike slowly. If Cinder-feller were deliberately following the Traders' own guidelines for negotiation, she was doing it very well. She was taking everything that Mike thought he knew about the situation, and turning it upside down. "But it would be quite useless to Fathom, or anyone else. The Trader Recording Sphere is a product of two generations of Chill technology. It can be destroyed —though even that is difficult; it can withstand temperatures of two thousand degrees and great pressures and accelerations. But its contents cannot be read out and deciphered without the use of the Trader central computer."

"I am glad to hear you feel so confident about that." Cinder-feller's musical voice was full of a disquieting cynicism. "Believe what you wish. Speaking for myself, I have purchased many 'secrets' in the past five years. Enough so that the security of your TRS codes is not a certainty that I would care to stake my own life on." The broad mouth yawned, and Mike saw strong teeth and a fleshy pink tongue. "Perhaps that gives us enough to think about for tonight. Tomorrow I want you to see my labs, and know what we have that should interest a Trader. As you will see, the Candlemass Berries and Velocil were no more than bait to bring you here.

"And I should provide you at least the bare bones of my own objectives in negotiation, so that you can do your own thinking tonight. My aims are simple, and they are large. I wish to control the whole of Strine." She paused. "And after that I wish to control the Unified Empire—Greaserland, if you prefer that name. For this enterprise, I will need a close working relationship with the Traders. I have told you already, I admire the Traders more than any other

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED



NEXT STOP:
SPACE STATION

". . . I am directing NASA to develop a permanently manned Space Station, and to do it within a decade." . . . President Ronald Reagan, State of the Union message, January 25, 1984.

Are you a person of vision? Are you excited about this next new stepping stone in mankind's future? Did you know that there is a magazine that covers these developments better than any other? Did you know that there is a non-profit public interest organization, founded by famed space pioneer Dr. Wernher von Braun, that actively supports all aspects of a strong U.S. space program? That organization is the NATIONAL SPACE INSTITUTE. If you're a member, here's what you'll get:

- 12 big issues of Space World magazine. Tops in the field. Follow the political, social and technological aspects of all Space Station developments—and all other space exploration and development too!
- VIP package tours to Kennedy Space Center to watch a Space Shuttle launch—the thrill of a lifetime!
- Regional meetings and workshops—get to meet an astronaut!
- Exclusive Space Hotline and Dial-A-Shuttle services.
- Discounts on valuable space merchandise and books.
- and much, much more!

So if you are that person of vision, your eyes upon the future, excited about the adventure of space exploration, let us send you more information on how to join the NSI. Just fill in your name and address and our packet will be on its way. AND, we'll send you a FREE Space Shuttle Launch Schedule which is yours to keep whatever you decide to do!

Name _____

Address _____

City, State, & Zip _____

NATIONAL SPACE INSTITUTE
West Wing Suite 203
600 Maryland Avenue, S.W.
Washington, D.C. 20024
(202) 484-1111

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

group on Earth or off it. Nothing would please me more than a joint effort with you."

Cinder-feller suddenly groaned, and Mike watched in fascination as the great body levered itself effortfully off the sofa. The Strine bigmomma was even more impressive standing, towering half a head above Mike.

"For tonight, enough." The voice was weary, and the cowled head nodded past Mike. "*He* will show you to your quarters."

Mike jerked his head around. He had heard nothing, but right behind him squatted a haploid abo. "For your sake," said Cinder-feller, "do not try to leave those quarters during the night. There is a danger that he might . . . misunderstand your actions." There was another throaty chuckle. "You will find ample food and drink in your quarters. Sleep well, Trader Mike."

Cinder-feller's final words were good advice, but Mike had trouble following them. The abo warrior had led him silently along a descending staircase, to a windowless hexagonal room containing a bed, bathroom, and kitchen. Mike went inside, closed the door, then after a minute or so opened it again. The abo was squatting at the far side of the corridor, eyes closed. Mike looked for a few seconds at the man's smooth, shining skin and peaceful face, until finally the head lifted and nostrils flared to sniff the air. The eyes opened. Mike went back inside and closed the door.

The kitchen was large, and liberally stocked with food and drink, most of it unfamiliar. There were the usual dried mutton, beer, bread, and bean-curd concentrates, but they were flanked by a dozen other jars and bottles. Mike took his detox pill, then sampled a small amount from each container. He could recognize the tang of fermented euclypt berries, and the resinous flavor of blackboys and prickly pear, and that was all.

He lay on the bed, and painstakingly made his daily oral report into the TRS. It was a slow, disconcerting business, and several times he paused to reconsider before recording. How much did he actually *know?* Very little. Mike wished again that Jack Lester were available to bounce ideas off. Jack had a much better idea of the psychology of the Strines. If Fathom were right, what Cinder-feller said could not be relied on; whereas if Cinder-feller were telling the truth, then everything that Fathom had done—including the whole time on the ship from Orkland—had been a setup, designed to win information via Mike regarding the operation here at Musgrave. And if *both* were lying? *(Trader's rule: assume* everybody *is lying . . .)*

Mike thought again of his instructions from Lyle Connery; of Sweet Pea, the deaf-mute who wasn't; of Cinder-feller, the "hideously mutilated" boss of Musgrave, whose voluminous clothes might hide the deformity of any kind of accident; and finally, of the superbly conditioned haploid abo who now sat outside his door. Mike compared that man with the warrior column he had seen earlier, running silently off toward the coming dust storm.

And the conclusion that he reached kept him awake for many hours.

When he finally fell asleep, he dreamed . . .

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

. . . he was running, fleeing north across the flat, open land of Strine. The sun was in his eyes. When he turned to look back they were always there, fifteen or twenty of them. They were a couple of miles behind . . . closing steadily. Haploid abos, naked. Skimming effortlessly across the badland barrens. He looked ahead. The sea lay in that direction, due north. It was only a few miles away, but it might as well have been an infinity. He was nearly exhausted, moving more and more slowly. The abos had broken their silence. Now he could hear them, talking to each other in thin whispers of sound. . . .

Mike awoke. He was sweating, and his heart was pounding. The room was lit by one faint fluorescent wall tube. He jerked upright. As he did so, two people who had been talking together in low voices near the door fell silent. After a few seconds they looked at each other and moved closer.

"Good thing you woke," said one of them. "We didn't know if we should let you sleep or not. It's nearly noon."

Mike shivered, and put his hands up to his eyes. The intruders were a young man and a woman, identically dressed and so similar in age and appearance that they had to be fraternal twins, if not cross-sex clones. They were in their middle twenties, with tight curls of dark-brown hair, bright gray eyes, and cheeky expressions.

It was the girl who had spoken to Mike, and now she came to the side of the bed. "We're here to show you round the labs," she said, when Mike did not speak. "I'm Sandra Bates."

"—and I'm Jake Bates," chimed in the man. Even their voices matched, his half an octave deeper than hers. "We'll show you the whole show, but there's no hurry. If you want to wash or eat, we can wait outside for you."

"No. Give me ten seconds in the bathroom and I'll be ready to go." Mike stood up. He wanted to wipe out that nightmare of abo pursuit. "Where's Cinder-feller?"

"Where she always is." Sandra Bates sounded surprised. "She doesn't come outside, except sometimes at night to swim in the lake. And she has access to that right from her rooms."

"I thought she wanted to meet again."

"She does," said Jake cheerfully. "We'll take you to her when we're finished. Anything special you want to see?"

There was an odd casualness and confidence in their attitude. Neither seemed much impressed at meeting a Trader, or at all deferential toward Cinder-feller.

"I don't know what there *is* to see," said Mike. "But I'm a Trader. Show me anything here in The Musgrave that you think might be worth trading."

The other two exchanged pleased looks. "Right," said Sandra. "Come with us." They led the way from Mike's quarters into the corridor, and up three full turns of a long spiral staircase. "Hold tight," said Jake, and pushed open a heavy metal door. They were at once hit by the full sunlight of midday Strine. After the gloom of the underground facility the effect was shattering. Mike squeezed his eyes shut, seeing a dull red glow through his eyelids and waiting for his pupils to make their adjustment.

Jake laughed. "Gotcher," he said. "You have to be ready for that. Don't

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

worry, we'll be going back down in a minute. This is just a short cut to the main labs."

The heat was enough to make Mike feel dizzy. He took a deep breath, and looked around him. The ground was like baked brick, red and bare, without even the scrubby vegetation that he had seen throughout most of Strine. Only the lake seemed alive, cool and rippling in the hot noon breeze. It was a good deal smaller than his earlier twilight impression. He estimated its length as a couple of kilometers. All along the shore of the lake grew unfamiliar trees and bushes. As he watched there was the multiple splash of a fish taking an insect near the surface.

A flotilla of light aircars was parked by the lakeside, each carrying a quadruple spiral insignium on its blunt nose. Jake saw the direction of Mike's look. "Local transport. We use them to patrol the borders. Course, we hardly need 'em. The abo teams stop anything coming in here—or going out."

A barbed message from Cinder-feller?—"*Don't try to get away, you'll never do it without my help.*" Maybe. Mike walked closer to one of the cars, studying its design. The model looked familiar enough, an electric-powered Chill runabout with a range of no more than a hundred kilometers. It would get him to the border of Fathom's territory, or northwest into the badlands, but nowhere else. He pointed at the marking on the aircar's nose.

"Our sign," said Sandra proudly, without waiting for a question. "Just you wait. In a few years you'll see that on half the biolab products anywhere in the world." She jerked her thumb toward the trees and bushes at the lake's edge. "Jake and me, we designed every one of those. They're all valuable, and all different. They're biological concentrators."

Mike stared at the lakeside vegetation. On a closer inspection, he could see odd nodular fruit, growing in close to the main stems.

"For different materials," added Jake. "Metals and rare earths, mostly. See that one? It concentrates selenium. Takes it in through the roots—they grow way out into the lake—and deposits the oxide in the black fruit. Seventy percent pure. The one next to it handles vanadium. And they'll both tolerate seawater on their root systems."

Mike looked at the plants for a long time. "*You* developed these?" he said at last. "The two of you?"

"We sure did." Sandra shrugged. "You like them? That's nothing. We did veggies when we were first starting, four years ago. They're old stuff. Wait until you get inside our new labs."

They had skirted one side of the lake, and were approaching a long escalator that ran down parallel to the shore. Mike took a last look around him, scanning the scene with the TRS. He did his own assessment of distances and times, then followed the twins onto the descending staircase.

"*. . . when we were first starting, four years ago.*"

How old was the Trader information on the Strine biolabs? It had been five years since Jack Lester was rescued from southern Strine, three since the last Trader visit. And nothing in the briefings had hinted at what Mike was seeing now in The Musgrave. Cinder-feller

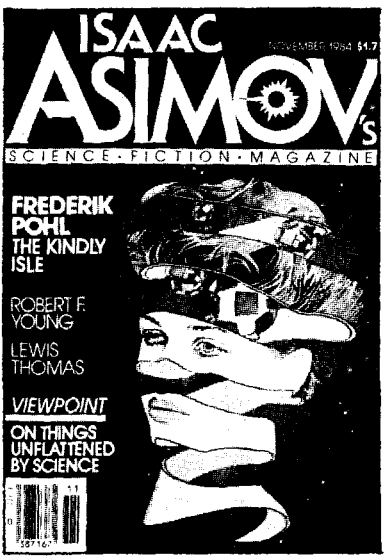
LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

THIS YEAR ENTER ANOTHER DIMENSION.

SUBSCRIBE NOW AND SAVE UP TO 44% OFF THE COVER PRICE

CALL TOLL-FREE 1-800-247-2160

(Iowa residents Call 1-800-362-2860)



YES SEND ME

☐ 8 Issues for only $11.97

☐ 18 Issues for only $19.97

ISAAC ASIMOV'S SCIENCE·FICTION·MAGAZINE

P.O. Box 1933, Marion, OH 43306

Name _____

Address _____

City _____

State _____ Zip _____

Please allow 6-8 weeks for delivery of first issue. Outside U.S. and possessions 8 issues for $14.97. 18 issues for $24.97. All foreign orders must be paid in advance in U.S. currency.

DA465

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

was no more than a name in the Trader data banks—and Sandra and Jake Bates, inventors extraordinary, were not mentioned.

Mike felt an increasing conviction: he was too inexperienced for this mission. Unless he was being subjected to an elaborate set-up, the original objective of finding the source of Velocil was dwarfed by the potential of Cinderfeller's operation.

Four hours later, that tentative thought had been fully confirmed. Sandra and Jake Bates had led Mike through eighteen separate facilities.

Plants. . . .

. . . Plants thriving in almost total vacuum ("Chip market material," said Jake confidently. He had dug his thumb nail into a thick, waxy leaf. The wound sealed itself in seconds. "We want to do a little more work on this. It'll be another year before we'll look at the use in space.") . . . fruits which were violently explosive, ranging from pea-sized squibs to powerful bombs as big as melons . . . fruit with a ninety percent ethyl alcohol content ("The Boozer's dream," said Sandra. "Alcohol, fructose, and flavor—even has a pop-off top on one end.") . . . high-protein food fruits, duplicating the composition and texture of beef, pork, and fish . . . forty-meter blackboys, their trunks built of spirals of monofilament carbon strands, far stronger than any metal.

And animals. . . .

. . . Tiny, modified jerboas, patiently assembling electronic components and staring at the visitors with calm, intelligent eyes . . . sluggish, jewel-eyed lizards, their necks swollen with gland sacs ("Full of nerve poisons," said Sandra happily. "A thousandth of a gram would kill the lot of us.") . . . humming-birds, silver and crimson and purple, flashing around their cages so fast that they could be seen only when they hovered briefly in front of a flower ("Just for fun," explained Jake. "I did these as Sandra's twenty-first birthday present.) . . . ant colonies, fashioning elaborate transparent lattices from their own body secretions, according to some precise prescription ("They build perfect lenses and mirrors, among other things," said Jake. "We pass them structural specifications through chemical messengers in the food supplies.").

And the symbiotes. . . .

. . . most complex of all, with their elaborate amalgam of plant and animal DNA—mobile carnivorous plants, their calyxes framed by circles of primitive eyes . . . lethargic, sloth-like creatures hanging lazy from the trees, wings spread wide for optimal photosynthesis ("Still a failure," explained Sandra. "We haven't been able to get the energy absorption rate high enough for full mobility.") . . . and the polytropes, half-meter spheres containing within themselves complete ecosystems, requiring for their continuing function only a supply of radiation and an energy sink.

And almost as an afterthought Sandra had taken Mike to a small nursery, where a dozen shrubs carried the Candlemass Berries from which Velocil could be extracted.

Throughout the tour, Sandra and Jake Bates kept up their running commentary. Their casual chat about genetic surgery and nuclear splicing had been far more impressive than any boasts.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

And their open admission that six labs for human development were off-limits to Mike and all visitors hinted at more than they had been permitted to show.

"But how does Cinder-feller fit in?" asked Mike at last, when they were emerging from the fourth underground facility. "I mean, if you do all this, what does Cinder-feller do?"

They looked at him in bewilderment. "Why, Cinder-feller's the bigmomma," said Sandra. "Runs the whole show —defense, deals, fights, finances, supplies."

"But not the technical developments?"

The twins burst out laughing. "Course not," they said in unison. "Doesn't have time," said Jake. "And anyway, don't know how. Cinder-feller's smart, but not that way. She don't know *nothing* technical. We handle all that, and just pass on the results."

They had reached the exit. There Mike stripped and was subjected to a search by a haploid abo guard. Sandra and Jake seemed to regard that as completely natural. Mike could not argue with the Strine logic. It would have been simple to sneak a piece of tissue from one of the plants or animals and tuck it away into a pocket. As the abo sniffed through his clothes and all around his body, Mike felt very glad that he had resisted that temptation.

It was late afternoon when the twins finally took him into the open air again. The wind had become stronger, with little willy-willy's of dust swirling around by the lake shore. Jake paused and turned to Sandra. "What do you think?"

She nodded. "Another one on the way. We'd better move fast here and see to the animals."

"Another what?" asked Mike.

She turned to him. "Another damned dust storm. You'll be stuck here for a while yet. See that red line on the horizon? Be a brickfielder in from the north in four or five hours, and stay that way for maybe a day or two. The native animals don't mind, but some of the new species crosses are kind of delicate. We'll have to bring them inside. Lousy job."

The twins were distracted. They escorted Mike down to Cinder-feller's headquarters, passed him quietly over to the same abo (or one who at least looked identical, to Mike's inexperienced eyes), and headed straight back to the surface. The abo led him inside, then squatted at the door. Cinder-feller, according to the message on her computer display, was busy in a private meeting. Mike had nothing to do but stare out through the glass wall at the placid bottom of the lake, pursue his own disquieting thoughts, and wonder gloomily about the Traders' system for entrance to their ranks. What fraction did they lose on the final test? Worse yet, *how* did they lose them?

Trader's rule: don't try to be a hero; there's no shame in flight.

Fine. But what if you *couldn't* flee? What if you couldn't even ask for help and call in a Trader Smash? The rescue squad was always available, but with ground-level communications lines jammed there was no way to get the message out. And even if he could, the Smash would have trouble cracking the Musgrave defenses. He'd have to find his way at least to the badlands, where

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

the Interior security system didn't bother to operate. And in the badlands, of course, the haploid abos were free to do what they liked. . . .

Mike was pulled from his reverie by the gentle beep of Cinder-feller's computer terminal. He went over to it, as a message scrolled into view. I'M ALL FINISHED HERE. COME UP TWO LEVELS AS SOON AS YOU'RE READY, AND WE'LL HAVE DINNER. (USE THE PERSONAL ELEVATOR IN THE FAR LEFT CORNER OF THE ROOM—NOT THE MAIN ONE.)

The final comment seemed like a late afterthought. Mike took one look at the haploid abo (what would have happened if he'd tried to go out *that* way?) and followed Cinder-feller's directions. The personal elevator in the corner of the room was certainly bigmomma sized—two meters across, with a weight capacity of four hundred kilos!

She was waiting for him upstairs, at a great table of polished black wood with white hatch covers set into the surface. Mike gave her one all-over incredulous stare, then tried to stop gaping.

Last night's swaddle of clothing had made Cinder-feller look huge; today's costume revealed that she was truly gigantic. The poncho and quilts had been abandoned in favor of a pale yellow sleeveless tunic. It showed everything: arms like bolsters, a bulky, amorphous trunk, and rolls of body fat, bulging so much at chest and belly that the sex of the being beneath was totally indeterminate. On top of the meaty shoulders an incongruously delicate neck supported a massive head. Mike could see no sign of scar or maiming. The skin of Cinder-feller's arms, legs, neck, and head was smooth, pale, and perfectly unblemished.

As Mike sat down Cinder-feller touched the controls in the top of the table. The lights in the room dimmed, the wall that separated them from the lake moved from opaque white to transparent, and the table-top hatches began to open.

"I promised you a banquet tonight," said Cinder-feller slowly. The eyes in the bloated head were dark and amused. "If you are willing to trust my choice of dishes I can promise you an outstanding meal."

Mike nodded.

"Excellent!" Cinder-feller's voice was greedy. She pressed another control, and the tiny, Chill-manufactured table robots came scuttling out of the hatches carrying their loaded tureens, dishes, and glasses. Mike took one look at the array of food opening before him and hurriedly swallowed a double dose of detox pills.

Cinder-feller gestured to the piled plates. Without waiting for Mike she picked up and drained a liter tankard of dark beer, placed it for refill, put her head down, and began to gorge. There were at least twenty heaped plates of food on the table. Mike cautiously sampled a mouthful of each dish, but most of his attention was on Cinder-feller.

She ate without pause for nearly half an hour until the broad face was flushed and sweaty, then at last put down her fork. The Chill robots did not clear the table. Mike deduced that this was no more than a breather between courses. Since sitting down he had drunk a little more than a liter and a half of strong beer. In the same interval, Cinder-feller

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

had drunk (he had been counting carefully) eleven liters of beer, two liters of fortified wine, and half a liter of distilled spirits. And every ounce of drink had washed down a great mouthful of food.

"Do you have food like this in your Trader homes?" said Cinder-feller. Mike shook his head. "I thought not," she went on. She licked her lips. "Strine food is the best—the best in the world. When I take over from the Greasers, we will introduce these dishes to them." She leaned conspiratorially toward Mike. "You will help me to do it. Sandra and Jake showed you my labs here, eh? Be honest with me. Did you ever see their like, or hear of it?"

Mike could give a truthful answer to that. "I never did. Your laboratories are unique."

"And you Traders will work with me?"

"We would like nothing better. If we can." Mike wondered about his next statement, then decided to risk it. "But there are things I was not shown—things that would interest the Traders very much. Can you arrange for me to see them?"

His question caught Cinder-feller with another tankard of beer halfway to her mouth. She frowned, paused with the vessel in front of her face, and asked, "What do you mean, not shown?"

"We have heard of a new version of the Dulcinel Protocol. One that can be applied to anyone, not just the haploid abos. We would like to know more about it."

"Ah." Cinder-feller chuckled and drained the tankard. "Yes, indeed. You, and Fathom too. She would like to have that information more than anything. But it is not yet for sale—or for discussion."

Trader's rule: locate the non-negotiables.

Mike had learned it early in his training: every bargainer had something they were not willing to give up. Locate it, and you were in a good position—you could propose any outrageous deal, no matter how unfavorable it seemed. If it involved one of their non-negotiable elements, you would be perfectly safe. Cinder-feller's voice and body-language said very clearly that the Dulcinel Protocol was not a negotiable item.

Mike placed his tankard next to Cinder-feller's, so that both would be refilled. "Yesterday you told me what you would like from us," he said. "You need our assistance in your efforts to control the whole of Strine, and after that the whole of Greaserland. We might do it if the terms are right. But if you will not offer the Dulcinel Protocol, what will you offer?"

Cinder-feller leaned forward, wet-lipped. "*Anything we showed you!* Any of the plants and animals that you saw today. If the Traders will help me, those discoveries are yours. And they are just beginning. That and more will be yours—as soon as Greaserland is mine."

Mike waited for a few moments, then shook his head slowly.

"I don't see how it can be as easy as that. You think you understand how we Traders operate our agreements, but it is more complicated than you know. We would never sign such a long-range deal—unless the other party had already taken Trader Oath and satisfied Trader Ritual."

Cinder-feller frowned. "Trader Rit-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ual?'' She drank again. Mike did the same, and offered up a prayer for his liver and kidneys. Just how much drinking could he do before he was under the table? With Cinder-feller's body mass and appetite, even going one-for-two with her on drinks would strain the powers of the detox pills. But he needed her at least partly drunk. They had already proposed so many toasts to The Musgrave and the Traders that he was running out of ideas and stomach capacity. He closed his eyes and sipped another half-ounce of beer. Thank God that Cinder-feller had switched to the hard stuff, distilled spirits and fortified wines.

''The Trader Ritual is something that all our close business partners must go through with us.'' He shrugged. ''It is a little old-fashioned, and some people say it is barbaric. But we have been doing it for so long, it is required for all close partners.''

''What does it call for? Formal signing of papers?''

''That, and a couple of more primitive forms of pact.'' Mike put down his glass. ''Look, if you wish to go through with it, we can do that when we are finished here. I'd suggest we do it now, but it's just a little bit messy. And I don't even want to consider going through Trader Ritual unless you propose to make it worth our while. You say you'll give us everything I saw. But you must be more specific. I will need a list, to take back with me in a couple of days.''

''Back? Through Fathom's lands?'' Cinder-feller shook her head, and the fat on her body rippled. ''No. I will tell you the general developments we have made—they of course include the Candlemass Berries. That will fulfill my part of the bargain. Then you and your TRS must stay here until your colleagues have carried out *their* part.''

Mike knew he was being forced along a path he preferred to avoid. But he saw few options. Finally he nodded. ''Very well. Before I can sign anything we must still agree on the list.''

Cinder-feller hunched forward. ''I will define it for you while we eat. And *then* we will satisfy your Ritual and sign our agreement. I am eager to move fast—but we must not spoil our meal.''

She pressed another command sequence in the table top, and the Chill table slaves appeared with more heaped dishes. Mike looked at them in dismay. He half-heartedly loaded his dish with whitefish and euclypt plums, gritted his teeth, and again raised his tankard. ''Another toast. To your discoveries here, and the profit they will bring both of us.''

They clinked their liter mugs. Mike looked at Cinder-feller's bulging eyes and sweaty brow, and wondered how much drink any human being could swallow and still remain upright. It looked as though he might be about to find out the hard way.

Five hours later Mike rose slowly to his feet. This time he felt sure that Cinder-feller was finally asleep. She was slumped on the bench opposite, eyes shut, mouth open, and loudly snoring. The Chill robots had cleared the empty flagons, so Mike had long ago lost count of her drinks—thirty? forty? Let's hope it would be enough. He needed a couple of hours.

He walked unsteadily to the door of

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

the room and opened it a fraction of an inch. The abo guard was still there. His eyes were closed, too, but Mike took no comfort from that. He dared not try to go back to his rooms. He went back inside, and examined the far wall that looked out on the lake. According to Sandra Bates, Cinder-feller liked to swim there, and she had access straight from her quarters. But where was the exit? It had to be closer to the surface.

Mike tiptoed across to Cinder-feller's personal elevator, entered, and pressed its top button. The car ascended with a creak of cables, and the door opened at last to total darkness. Mike knew that he was above ground level. He could hear the gusty whistling of wind, and the moving air filled his nose and mouth with fine coppery dust. The sand storm had arrived, still short of its full intensity. Mike waited for his eyes to adjust to the gloom, then walked forward. In a few steps the moon became visible, tinged to a dark rust-red and reflected in the lake. A long shallow ramp led down to the dark water. Mike removed his shoes and kept walking. The water was pleasantly warm. After a moment to get his bearings he swam off to his right, toward the parked line of aircars.

Before he emerged from the lake he sat in the shadows and listened for several minutes. No sounds but the strengthening wind, and no sign of guards. He stepped at last onto dry ground, then made his way quickly along the whole line of cars. He needed one that was fully charged and designed for maximum altitude. Range didn't matter—even the best aircar would take him only as far as the edge of the badlands.

After ten minutes he had made his selection. He spent another five minutes familiarizing himself with the controls, then started the engine. The noise was more than he had expected, easily audible above the storm. Pursuit would occur within minutes.

He took the plane at once into a tight upward spiral, aiming for maximum altitude. At six thousand meters he had climbed out above the storm. He left the spiral and headed north-north-west. At twenty thousand meters he turned the communication set to Trader frequencies. He found nothing but the intermittent babble of a jamming signal. He headed higher, until he was at twenty-seven thousand meters and the altitude limit of the aircar. Now the commset was giving off little bursts of identifiable carrier signal among the static. That was probably the best he could hope for. The car would not carry him completely above the jamming network. Mike switched to Send Mode and transmitted his personal I.D. sequence.

"Smash request from Asparian. I am now at twenty-seven kay, vectored twenty-two degrees west of north. Air speed two sixty one k.p.h." He looked at the power charge level. "Current estimated range eighty kay, plus fifteen kay glide phase. Repeat: I am requesting Smash support for ground pick-up. Chip tracking satellite will provide final aircar vector before landing. I will continue that direction on foot, at estimated ten kay per hour. I have no food or water, and I expect pursuit. Repeat: Smash request. . . ."

There was no return signal, no indication that the message was getting through. Mike continued to send for the

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

next eighty-four kilometers, until the car's drive power faded. Then he had to concentrate his efforts on a smooth descent through the swirling gusts of the brickfielder. The laser altimeter provided accurate height information, but nothing on ground cover. He had to hope that he was over level terrain, without tree cover or buildings.

At six hundred meters he could suddenly see the ground. The brickfielder was thinning, running out of energy. That would simplify the landing, but hasten his pursuit. As the car glided in to an unpowered landing Mike took a final bearing on the Moon and now-visible stars. Before the car rolled to a halt he had jumped out and headed north-northwest at a steady trot.

Within twenty minutes he was horribly winded. The badlands were rough, broken country, criss-crossed by steep-sided wadis. Sharp-edged gravel at the bottom of each one cut and grazed his bare feet, and climbing out was an effort. The terrain would have been cruel even for someone in great physical condition—and Mike was far from that. *A thirty-course banquet, liter after liter of beer, Trader Ritual, no sleep . . . just the thing to set you up for the run of your life.* Mike groaned, rubbed at the stitch in his aching right side, and kept running.

Two hours later the sun came up. Mike was still staggering along on legs that felt too heavy to lift. He had to stop and rest for a few minutes. At the top of a long incline he finally halted and turned to look back. The track he had made through the sandy bush was easy to follow. It weaved and curved like a drunkard's walk, but it kept the same general heading of west of north.

Mike looked farther back, to the crest of the previous rise. And what he saw there made him change his mind about stopping. Half a dozen naked abos were running rapidly down the hillside, following his trail. They were no more than a couple of miles away, traveling twice as fast as Mike's best speed.

Hide from them? That thought lasted only a moment. The haploid abos had legendary tracking skills and sensory apparatus. *Stay and fight?* That was worth even less time. They had no weapons, true—but nor dide; and anyway, their unarmed fighting abilities almost defied belief. *Surrender to them?* That was worst of all; haploid abos took no prisoners, and he had not forgotten Fathom's summary: "a nice long drink and forty kilos of convenient protein."

Within a fraction of a second Mike was running. He forgot his fatigue, forgot his stitch, forgot the lacerations on his feet as he sprinted through sharp-sided gravel. He raced down the long slope ahead, and up another one. At the brow of the hill he took another quick look back. They had halved their distance, strung out in a line over half a kilometer.

Mike could not hold the pace. He ran on hopelessly.

He was still running, lungs aflame, when the low-flying plane ripped in across the sandhills, whisked him off his feet in a snatch-net, and went at once into a high-speed vertical climb.

"*How about that! Smooth as a Chippo's bum.*" It was Jack Lover-boy Lester's cheerful voice, speaking into Mike's ear as the snatch-net was reeled

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

into the plane's interior. "*They didn't even get close. I'd say the nearest was still five hundred meters away when we did the pick-up. Hey, come on, boyo. Wake up! You don't want to be sleeping now.*"

Mike lay stretched out on the cabin floor. "What kept you?" he said faintly.

"Well, so who the devil *was* telling the truth?"

Lyle Connery's voice was exasperated. The Trader plane was skimming in a Mach Five sub-orbital towards the Azores. Connery had come in person on the Trader Smash squad. Now he was sitting in the plane next to Mike, with Jack Lester and Daddy-O present via satellite link.

Mike shrugged. He was lying at ease while a robodoc clicked and clucked its way around his body. So far he had been given one injection of antibiotics, a shot of alcohol inhibitor, and a liter glass of glucose and salt solution. He still felt terrible. It was hard to believe that any of them had done him any good. "I'm not sure that anyone was," he said at last. "Maybe Sandra and Jake Bates. They're technological geniuses, so maybe they'd be more likely to tell the truth about other matters. But not Fathom. And certainly not Cinder-feller. I couldn't afford to trust either of them."

"Trader's rule," said Lyle Connery. "Assume everybody is lying."

Mike nodded. "An excellent assumption. But look where it left me if either of them *was* telling the truth. If Cinder-feller were right, I'd be eliminated for my TRS as soon as I was back in Fathom's hands—split open like a herring, if I happened to have swallowed it. And if Fathom were right, Cinder-feller was planning on dealing direct with the Greasers for the Candlemass Berries—and she certainly didn't intend to let me leave for a long time. I'd made Trader deals with *both* of them, so I knew I'd have to go back there someday. But I'd wait a while. I couldn't see a rosy near-term future for myself in The Musgrave or in Fathom's territory."

"*Did Cinder-feller try to take you to bed?*" asked Jack Lester curiously. "*I have the feeling you might not be too hot on that idea.*"

"She didn't—thank God. She'd have crushed me flat." Mike shuddered. "And you know, I've been saying 'she' but I'm not sure that Cinder-feller was a woman at all. Cinder-feller could just as easily have been a man. To hold power in Interior Strine it would make a lot of sense to pass yourself off as a bigmomma." He was silent for a moment, pondering in retrospect the unpleasant notion of sleeping with Cinder-feller, male or female. "Maybe that's another reason I wanted to leave," he said at last. "We'd done most of our business. Cinder-feller and I had signed formal papers of agreement for the Candlemass Berries, and a lot of other things, too. So that seemed to cut the Greasers out. And it took care of my prime Mission requirement. That left me only two problems: how was I going to get out of there? And how could I find out about the new Dulcinel Protocol?"

"I told you not to worry your head about that," said Connery. "You had quite enough to do as it was—we had

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

no idea we were sending you into such a tangled situation."

"I *couldn't* ignore it. Not when the evidence was being pushed right in my face. Before I left, you told me what the new Protocol was supposed to do: rapid healing, tissue restoration, and a few other things. So when I got to the border of Cinder-feller's territory, what was the first thing I found? Sweet Pea, a deaf-mute—who was neither deaf nor dumb, *but who used to be*. And then I arrive at Cinder-feller's labs, expecting to see someone who has been terribly mutilated and burned in an accident."

"That's what the Trader grapevine told us," said Jack Lester. *"So deformed she hid away from the world."*

"She hid away all right," said Mike. "But I saw her—*lots* of her. And she was gross, and she was huge—but she was certainly not mutilated or deformed. That seemed proof enough, but the final piece was Cinder-feller's haploid abos. I'd seen abos earlier, when we put down at an airfield in southern Strine. They looked the way you'd expect warriors with radiation overdose to look: toes and fingers missing, deformed by tumors. But Cinder-feller's abos were nothing like that. They were in superb shape. Put it all together, and the conclusion was obvious: I was seeing the new Dulcinel Protocol in full operation. Jake and Sandra Bates had developed it, and Cinder-feller and Sweet Pea had benefited from it—though I feel sure they had no idea *how* it works."

Lyle Connery slapped his hand down hard on the bench next to him. "By God, it would be worth a fortune. We *have* to find a way to trade for it. Cinder-feller told you it was not available—but we have to try."

"I'm not sure we do," said Mike. He leaned back, easing his left arm clear of the chair. "I told you, Cinder-feller wanted to sign formal agreements for everything *except* the Protocol. But I told her the Traders wouldn't make that kind of long-term arrangement with an outsider. Before I could sign, she would have to go through Trader Ritual and become an honorary Trader."

There was a long, baffled silence. *"Honorary Trader?"* said Jack Lester at last. *"What kind of dingo-doo is that? Mike, me old partner, you need a bit of a rest. There's no such thing as an honorary Trader—and there's no such thing as a Trader Ritual."*

"There is now," said Mike wearily. He turned his left arm over, to reveal the long, fresh scar running up the inside of his forearm. "After we'd had dinner, and after thirty or forty tankards of booze, I invented a full Trader Ritual. Just for Cinder-feller. See the scar? We made that with a table knife. We're blood-brothers—or maybe I mean blood-sisters. I'm still not sure about Cinder-feller."

"But why the devil—" began Lyle Connery. Then he paused.

"Remember what you said." Mike gave a tired smile. "The Protocol is a lymphocyte change. If you'll just have the robodoc there take a few milliliters of my blood, you'll have enough modified lymphocytes for a flying start on analysis of the new Dulcinel Protocol. And of course, that's the *other* reason I had to get away from Cinder-feller's labs immediately. As soon as Jake or Sandra heard what happened, they'd see

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

through that blood-mingling ritual game in a second."

Under Daddy-O's control, the robo-doc was already back at Mike's left leg, feeling its way to a suitable vein. "Azores landing in five minutes," said Daddy-O. "There's a recuperation facility waiting for you there."

"And I don't think we need to keep you in suspense," added Lyle Connery. "You've passed your Trader final test, and more. You're officially a Trader now. But you took more risks that we ever expected."

"I know," said Mike. "I decided days ago that Daddy-O thought it would be an easy Mission—because you realized that somebody in Strine *wanted* a deal for the Candlemass Berries. But I don't think you had any idea of the feud between the different groups of Interior Strine. If you had, you'd have sent somebody with more experience. Somebody like Jack Lester."

"That's not funny, Mike," said Connery sharply.

"I think it is." Mike laughed, and touched the scar on his forearm. "If the new Protocol is as powerful as it looks, it will do far more than simple skin repairs. We'll be able to do complete *organ regeneration*. So you can rebuild Lover-boy. And the sooner you do *that*, and get him out of that damned tank and back to work as an honest Trader, the easier it will be on the rest of us."

His last words were lost in Lester's howl of mingled excitement and protest. "*Mike, you're a beauty and a bloody marvel. I'll get my balls back. But we have to stay PARTNERS. You know, we make one hell of a TEAM. . . .*"

Daddy-O was receiving an urgent incoming call for computer power. The machine retained a small fraction of capacity for the scene on the Smash plane, but most circuits had to be transferred to deal with the new problem.

Daddy-O had one last item to attend to before that could happen. Into Mikal Asparian's file went the notice of official elevation from Trainee to Trader rank. And in another small, locked data file went a ciphered annotation reflecting Daddy-O's own evaluation: too much success was more scary than too little; at some time in the future, the Traders could expect trouble with Mikal Asparian. ■

● While one should not brood about the possibility of life after death, one might as well consider it. If there is none, one should redouble efforts for hanging on as long as possible; if there is, one should try to learn the entrance requirements.

Kelvin Throop III

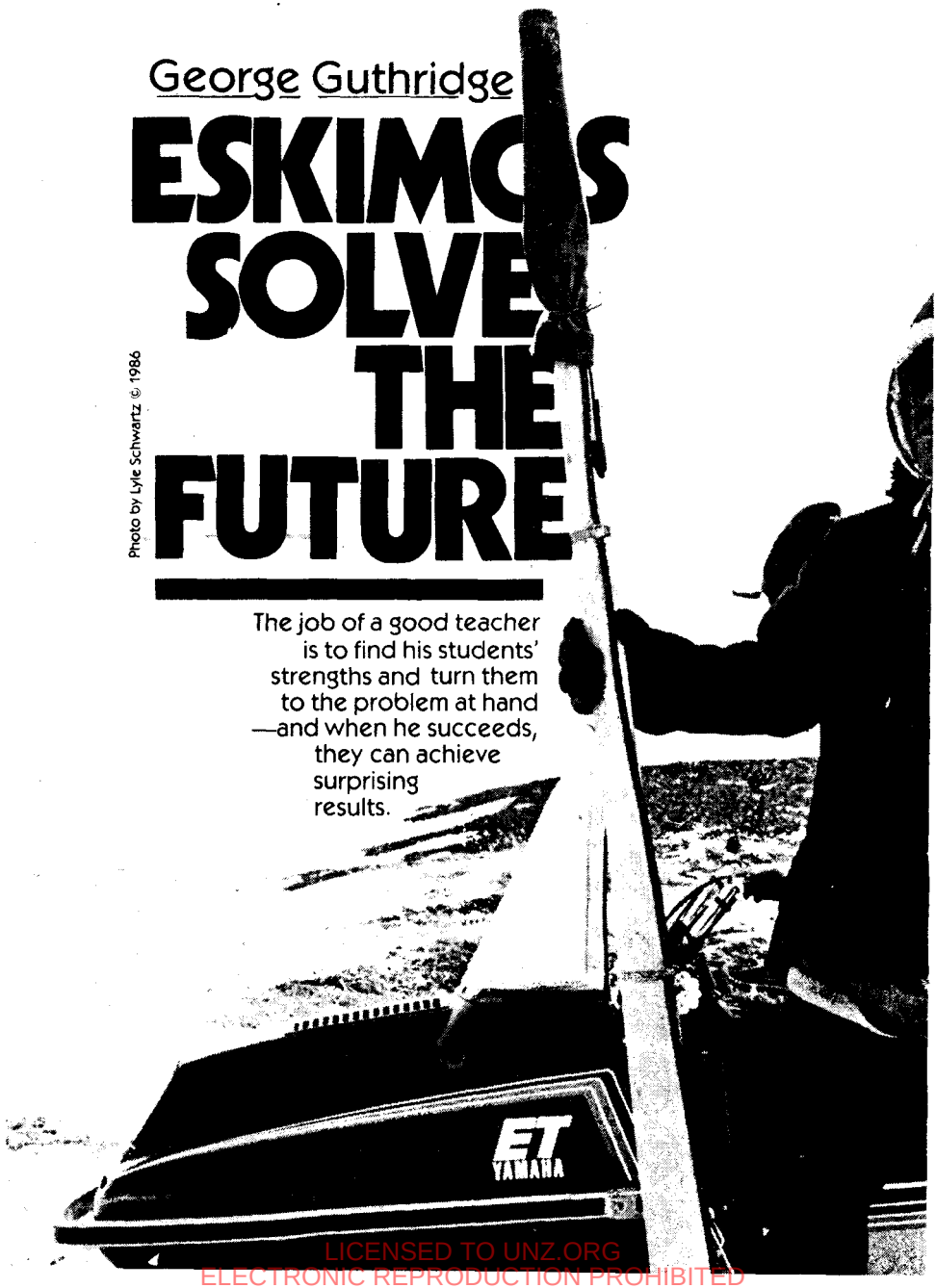
LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

George Guthridge

ESKIMOS SOLVE THE FUTURE

Photo by Lyle Schwartz © 1986

The job of a good teacher is to find his students' strengths and turn them to the problem at hand —and when he succeeds, they can achieve surprising results.



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Photo by Lyle Schwartz © 1986

LICENSED TO GNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Gambell, Alaska: the northern wind shrieks across the ice-clogged Bering Sea, bringing snow that pelts like hail. Huddled on an island spit before the headland known as Sivuqaq Mountain, the Siberian-Yupik Eskimo community knows each storm's full fury. When the winds calm and the sun breaks through the fog, the men mount snowmobiles or board *angyat* and head off to hunt birds, seals, walruses, polar bears, bowhead whales.

At the base of the mountain squats the village high school, which, consisting of five classrooms and a gym, serves 36 students (grades 9-12). Power outages are common, library facilities and science equipment almost nonexistent, knowledge of the outside world minimal. Classes are conducted in English, but outside the classroom the students chatter in their native tongue, St. Lawrence Island Yupik, a language spoken by less than 1000 people worldwide.

Ten Gambell students—more than ¼ of the student body—participate in a program known as Future Problem Solving (FPS), for which I am the local coach. Designed in 1974 by Dr. Paul Torrance of Athens, Georgia, in an attempt to interest "loner" gifted students in interpersonal interaction and to help creative students overcome the fear of expressing "wrong" answers, the program combines research, writing, logic, creative thinking, and group interaction skills in a timed competition that today involves over 100,000 students in three age groups (elementary, junior high, and high school) in 14 countries. Because of its emphasis on the future, on extrapolative techniques, and on the fact that the only "wrong" answer is the one not verbalized, the tenets of Future Problem Solving are similar to those of science fiction.

Each year, the national FPS committee gives students a series of general topics, each of which the students study for about six weeks. Subject areas have included Drunken Driving, Undersea Communities, Lasers, Nuclear Waste, Space Industrialization and Militarization, and Genetic Engineering. Depending on their success, students can play up to five problems per year: two practice problems (in November and January), a state-preliminary problem in March, the state final problem in April, and the international competition in late May or early June. The first three problems are played in school, with the answers mailed to state evaluation teams. A limited number of student teams, selected on the basis of their answers on the third problem, are invited to state competitions. State winners, plus a few national consolation-round winners, may then compete in an international competition which, for the past several years, has been held in Cedar Rapids, Iowa.

During each competition, teams of three or four students are given a previously unseen, futuristic scenario that involves the given subject. Using no notes or books, the teams have two hours to (1) list 20 problems that could result from that scenario; (2) write a problem statement for one of the 20 listed problems; (3) list 20 ways to solve

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

FUTURE PROBLEM SOLVERS. Seated: Carolyn Apatiki, Lorena Koonooka, Dorene Kulukhon, Meredith Guthridge. Standing: Rena Boolowon, Merle Apassingok, Bruce Currie (co-coach), Joel James, Alvin Aningayou, Romona Ungwiluk, Ron Apangalook, George Guthridge.

the chosen problem; (4) list five criteria by which the solutions may be assessed; (5) evaluate any 10 of the solutions according to the criteria, thereby arriving at a "best solution"; and (6) write a short essay that further explains how the best solution will work and why it will be effective in reducing complications for the scenario.

Beginning teams often do not finish

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

the process, a fact that has especially been true when adults have played, since many adults are reluctant to compromise on ideas they feel are "excellent," a pitfall that superior student teams soon learn to avoid. In each part of the process, teams hoping to win must also concern themselves with clarity of expression, the probability that the listed problem or solution will occur in the given scenario, demonstrated research, humaneness of ideas, and other factors.

The subject matter for the 1985 state competition was the Greenhouse Effect; the scenario turned out to involve flooding in Florida due to the melting of the West Antarctica Ice Sheet. Gambell's students isolated and presented 20 problems, including loss of Seminole artifacts and loss of tourist revenues. They then wrote a problem statement in which they sought to remedy the situation over the long term, by increasing plantlife CO_2 ingestion. They offered 20 solutions to the problem statement and evaluated their solutions.

Their best solution? Increase CO_2 intake by plankton. To accomplish this, they directed microbiologists to isolate a plankton that could grow under great pressure. They then created a kelp-sequoia hybrid, which they bred with the mutant plankton. By cloning the result, they hypothesized, they could create a large plant capable of growing at tremendous ocean depths.

They directed the Navy to plant the new plant in various oceanic trenches, and to develop an undersea community staffed by aquaculturists. Then, working from the word *palisade*, which one of the students had had on a vocabulary test in English class, they built a palisade of hydroelectric turbines around Antarctica. The palisade reduced the rate of melt by reducing heat-transfer from waves, and thus helped retain the continent's albedo; it also reduced CO_2 by reducing world reliance on carbon fuels. And, of course, it powered the undersea community, including the community's exterior lights that would help the plankton-hybrid grow until it reached ocean levels penetrated by sunlight.

Besides increasing CO_2 intake, the huge plants provided O_2 and food both to the undersea community and the rest of the world; and its agar, algin, and carrageenan, useful in pharmaceutical and industrial products and processes, aided international health programs and boosted flagging economies.

If all evaluation criteria are met, the team receives ½ point per problem or solution. The problems and solutions are then judged for originality, which may earn the team five additional points per problem or solution.

To be awarded originality points, the problem or solution, in the judges' opinion, must (1) fit the scenario perfectly, and (2) demonstrate thinking significantly beyond that of other teams in the competition. Students may use the ideas of experts, but should be able either to apply the ideas specifically to the scenario or, better, combine several researched ideas into something new and unique.

Few originality points are awarded. team members are proud, and justifiably so, if they receive three or four "originals" in one competition.

At the 1984 International Future Problem Solving Bowl, Gambell's high school team earned 19 originals.

Gambell's students have played FPS since 1982, and their trophies fill a shelf. In the team competition, they have twice placed second in the state,

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

twice won the state, and stunned the world of academic competition with double-division wins at the International Bowl—the first school ever to win in two FPS age groups in the same year. In corollary FPS competitions they have won six state and five international short story awards, including the 1985 international junior high competition; three state skit awards; and first and second place trophies in the state FPS individual competitions.

These championships came from a school that, until three years ago, was considered the pariah of Alaskan education. Gambell was infamous for its student absenteeism, low-level if not altogether disregarded learning, and assaults on teachers. The trophies were won by students who, with one or two exceptions, are not academically gifted, whose Eskimo training frowns on verbal interaction, who possess poor reading comprehension, whose school days are filled with athletics and other extracurricular activities, who—especially the boys—have subsistence-hunting responsibilities before and after school, and who often see little need to address what they have been told are "white man's" problems.

"How did they do it?" reporters and other FPS coaches have asked.

The question is improper.

"Why shouldn't they win?" they should wonder.

The problem with much of education today is the same as with all bad attitudes: it is self-defeating. It starts with the negatives, with the deficit side of the educational balance sheet. Instead of commiserating about what students cannot do, educators need to figure out and use student assets. At Gambell, for example, the better students generally have excellent memories (as do most people in newly literate cultures), are almost all related, and love to compete—contrary to the prevailing myth that "Eskimos are passive."

Secondly, educators must correlate teaching styles with learning styles. Special-education teachers have said this for years, but most educators are so reliant on old, worn-out techniques that they resist the truth.

Filled with an odd mix of optimism and dread, I begged and browbeat the Gambell students into verbalizing during the competition, as according to the suggested FPS method they are supposed to do. The students looked at me like I was not only an off-islander, but I was from off-planet. They played their first practice problem, and the one team that did well said about four words the entire time: just enough to ensure they weren't duplicating each others' ideas. When hunting, you do not barter and bicker when the animal is at hand; you maintain absolute silence and get down to task.

Further, I discovered, what those students lacked in the ability to explain problems and solutions succinctly (again, English being their second language), they made up for by writing at length. They had lost ideas by not verbalizing during the competition, but had gained writing time.

From that first competition I slowly evolved a theory of how to reach the

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

kids . . . a theory that, according to Native educators I have met, has far-reaching ramifications for Native education and for inter-racial relations.

Generally, teachers use a four-part instruction method: creativity, conceptualization, familiarization, memorization. In ancient history, for example, we may have students build sugar-cube pyramids or draw Egyptian maps or butcher-paper "murals" (creativity); we then explain the basic ideas of Egyptian culture (conceptualization); break the basics down into their component parts by explaining who built the largest pyramid, etc. (familiarization); and have students memorize whatever facts we feel they should retain. Sometimes creativity comes second, or even third; but what is important to realize is, in Western society, creativity is emphasized. Try and try again.

In Gambell that philosophy would kill you. Literally.

It may be twenty below out on the ice, with a wind chill factor three or four times that; the ice is treacherous; and you must bring back game if you expect to eat. (An interesting word, *game*; it shows the white man's priorities.) There is no margin for error out there; no second tries.

In the old days, Eskimo children were taught with methods just the opposite of those now used in school. The youth sat silently on the ice, memorizing his father's every move, and then familiarized himself with his tools. If he survived into manhood, he would conceptualize about animal migrations and other matters, often in the form of legends; and if he became extremely respected, then new hunting techniques he had developed would be copied. This ancient training is a major reason why so many Native-Alaskan bush teachers pull out their hair, develop cabin fever, and move on to more urban climes; teaching techniques developed in the Lower 48 rarely work up here. Class discussion is nearly unheard of; questions elicit blank stares or may go unanswered for glacial intervals. No one can afford to make a mistake.

In Future Problem Solving at Gambell we have learned to apply Eskimo training to the modern school setting. Students find, record, and memorize possible problems and solutions that might be applicable to the assigned subject matter, and then—slowly—figure out what the material means. Everything is carefully analyzed and assessed; understanding and decision-making proceed at snail speed. Waiting for the ideas to gel can be frustrating for me as the coach (the competition may be 48 hours away, and the kids still don't seem to know what's going on), but like all American kids, they usually come through in the pinch. When comprehension finally blooms, the students know the subject extremely well, little is left to chance, and they are usually able to apply the material to a startling number of situations.

Nor does the team "play" problems. The process is difficult enough without burdening students with the notion that "this is just a game" (and with that, for Natives, comes the suspicion that you might not say the same thing to white

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

kids). Future Problem Solving is important; ergo, winning at Future Problem Solving is important. (Interestingly enough, some of the program's severest critics have been people involved in athletics; but there, winning is important because, unlike academics, athletics is important. . . .)

To win: that might not mean bringing home a trophy. It does mean performing to the top of one's ability and, like a cup of coffee filled above the brim, beyond one's ability. I demand and usually receive, after considerable grumbling and gnashing of teeth, not just 100 percent effort; I receive more than 100 percent. For two of my students it meant studying virtually nonstop for 72 hours: three days without sleep. For another, a ninth grader with a fourth-grade reading level, it meant using a dictionary while she deciphered, almost word by word, scientific material on nuclear waste, something she had never heard of before; she became a national champion.

And so they worked. Circumventing "creativity," they became creative in the way that most science fiction writers (and successful hunters) work: first research, *then* develop ideas. To ensure that the students (and their parents) did not look upon Future Problem Solving as applicable only to daydreams, I insisted that every possible problem or solution be the product of (or extrapolated from) actual scientific experiments or data. To that end, they have read; conducted phone interviews with scientists, including SFWA members such as George Harper and Dean Lambe; and slowly built up a repertoire of concepts. It has fascinated me how the kids can rework a problem from one subject area to fit a totally different subject: hunters do not throw away tools.

One big problem remained: idea generation through group interaction. We had arrived back at the beginning, but as T. S. Eliot might say, we had arrived back knowing where we were. I put the students through a program that emphasized individual brainstorming under the pressure of time limits. Then I scrimmaged the junior high team against the senior high team, with six-packs of pop to the winners. Once, one team produced five solutions in 20 minutes during a scrimmage; I brought in the pop and started over: 89 solutions in nine minutes. A team record.

Gambell's students have learned a lot from Future Problem Solving, and not just material appropriate for the problems' subject matter. Their reading lev-

Those wishing additional information on Future Problem Solving should contact Dr. Anne Crabbe, National Director, Future Problem Solving Program, St. Andrews College, Laurinburg, NC 28352 (919)276-3652. Booklets explaining rules, teaching and evaluation techniques, and other information are available at nominal cost.

SF convention chairpersons might consider FPS as part of their program. A modified FPS competition was presented at two parties at the 1985 V-Con; several participants commented on how much they enjoyed it. "It made the con for me," one person said. "It lets people argue about and create solutions for futuristic scenarios; it makes people *think*."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

els have jumped as much as four grades in one year; they have become adept at distinguishing useful versus background information; they have become interested in ideas in themselves rather than always seeing idea-generation as a means to an end; they have developed basic group-interaction skills; and for the first time in the school's history, they have been willing to perform on a stage. More than that, they have realized that complex problems can be solved, but only when people work together. This philosophy should go a long way in helping them, as adults, fight off the existential despair that so often pervades Native villages.

Conversely, we educators have learned from the students. For years Alaska has had excellent Native bilingual and bicultural programs; but shouldn't we, I have wondered, be teaching Native students not only what their heritage is, but also how they acquired it? Such an idea also has applications for Natives in Western classrooms. For example, a year ago I started my American history course by having the students memorize fact sheets of the entire quarter's material, before they began reading the textbook or engaging in other usual classroom activities. The final exam scores were markedly superior to any in previous classes. One student's grade jumped from a D- to an A in one quarter, without noticeable extra effort on his part. I had molded the teaching method to his thinking method, instead of attempting the reverse.

Does this then imply that we should throw out Western teaching methods in Native-teaching situations? I think not. "The human brain is nothing more—and nothing less—than an efficient computer," I tell my students. "Why not give it two types of software?"

What we have learned about Native learning styles does imply, however, that we may be approaching inter-racial situations from the wrong direction. I have watched educational and government administrators, for instance, present a problem to a local school or government advisory body—and become impatient or even angry when the Eskimos do not immediately respond with a possible solution. Expecting a quick answer is wrong-headed on two counts. First, giving an immediate response is contrary to Native thinking styles. Secondly, Eskimo society, unlike that of Indians, has no chiefs; traditionally it was truly communistic, in the anthropological sense of the word. Assuming leadership by offering a possible solution can be a self put-down. Rather, before an answer is given, it has been arrived at as a consensus, often through nonverbal means that anthropologists are only beginning to understand.

In turn, I wonder, might not Native thinking styles strengthen that of Western humankind? It seems to me we have reached a point—whether it be international politics or space exploration—where a single error can have such dire consequences that we no longer dare make mistakes. We are all out on the ice, in a way. We can no longer rely on the trial-and-error method that marked

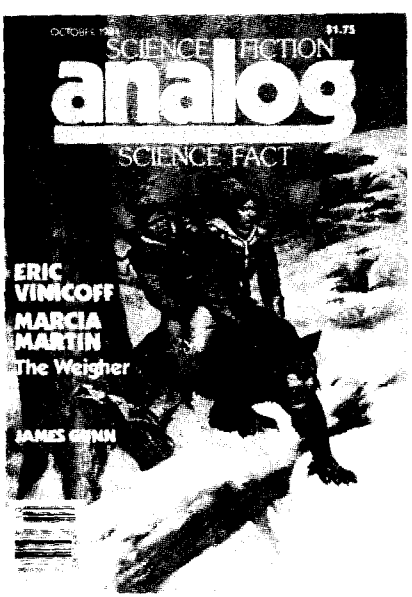
LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

THE PAST, THE PRESENT, THE FUTURE, THE UNKNOWN.

SUBSCRIBE NOW AND SAVE UP TO 44% OFF THE COVER PRICE

CALL TOLL-FREE 1-800-247-2160

(Iowa residents Call 1-800-362-2860)



YES SEND ME

☐ 8 Issues for only $11.97

☐ 18 Issues for only $19.97

SCIENCE FICTION
analog
SCIENCE FACT

P.O. Box 1936, Marion, OH 43306

Name _____

Address _____

City _____

State _____ Zip _____

Please allow 6-8 weeks for delivery of first issue. Outside U.S. and possessions 8 issues for $14.97. 18 issues for $24.97. All foreign orders must be paid in advance in U.S. currency.

DA46A

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

the early space program, nor chance the shortsighted logic that resulted in Hiroshima and Nagasaki.

Native thinking is not new to us, as Western thinking is to Eskimos. Our pioneering forefathers—the ones who survived—had it, but as American society has become citified and enculturated we somehow misplaced our ability to think things through. We forge ahead, and keep our attorneys on retainers for when we're wrong.

We've a long way to go before arriving back where we were. ■

Gambell's 1984 International Bowl winning teams consisted of (senior level) Merle Apassingok, Lorena Koonooka, Ron Apangalook, Joel James, and Dorene Kulukhon (alternate); (junior high level) Carolyn Apatiki, Alvin Aningayou, Rena Boolowon, Meredith Guthridge (the only non-Eskimo on either team), and Romona Ungwiluk (alternate). In 1985 a high-school team of Apangalook, Apatiki, Aningayou, and Boolowon placed second in the state, then earned an invitation to the International Bowl by winning the national consolation round. Due to a black comedy of errors—everything that could possibly go wrong, did—they failed to place in the 1985 international team competition.

For 13 decades, YWCA women have been moving . . . and changing patterns of action – and inaction – in areas of special need to women and girls. YWCA women address both national and international concerns within their home communities, working in more than 6,000 locations all over the country.

That's the continuity of the YWCA. That's why we've been successful for 125 years. People have turned to us for help, they've gotten it.

They still do.

YWCA OF THE U.S.A.

For information, contact your community YWCA or Communications, National Board, YWCA 135 West 50th Street, New York, N.Y. 10020

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Jay Kay Klein's biolog

At Longitude W172° and Latitude N64°, George Guthridge manages to be *Analog*'s most Westerly and Northerly American author. On a very large map, you can find a very small dot indicating Gambell, Alaska, on Saint Lawrence Island. This is the most typical of all Eskimo villages. The nearest city is Nome, with 3,000 people. When you live twelve miles from the International Dateline and close enough to see Siberia, there isn't too much to do during the winter that isn't connected with inner resources—unless, of course, you are one of the subsistence hunters who constitute all of the population but a few teachers and preachers. George writes, and avoids going out much on the beautiful frozen wastes that can be deadly to the unwary. Summers, he's off to enjoy his ten weeks of timeshares owned in resort condominiums.

George started life in Vancouver, received a BA in English from Portland State University and an MFA in creative writing from the University of Iowa. The best part about grad school was the parties, since he discovered he'd learned more about writing in one weekend at a SF writer's workshop featuring George R.R. Martin, Algis Budrys, Gene Wolfe, Phyllis Eisenstein, and other SF writers. After college, he worked successively as a professor, janitor, tech writer, magazine editor, freelancer, and teacher. He wrote initially for literary magazines, then discovered SF was more congenial, selling his first SF story for the July, 1976 *Analog*. As a sample of George's different type of viewpoint, consider one western: the hero is a 15-year-old, retarded, dwarf gunfighter.

Attached by incentive pay, George started teaching English and social studies at a high school where about 50 students are drawn from the population of 900 Yupik-speaking Eskimos that own the Connecticut-sized island. He approached the assignment much as an anthropologist might, trying to fit the methods to the students. Previous teachers had been assaulted, run over by snowmobiles, and shot at. George notes that Eskimos just plain look at the world differently and are oriented to a different set of approaches to problem solving.

Having read little SF before starting to write it, George discovered that rewriting was consuming too much time, even with a word processor. Now, he plots very, very carefully, and sometimes thinks about a story for a couple of years before turning it out. He is mainly interested in anthropological fiction, combined with hard science. From where George sits these days, the people who do strange things under the compulsion of incomprehensible cultural imperatives come from the artificiality of crowded city centers and not at the interface where humans meet the real universe. ■

George Guthridge

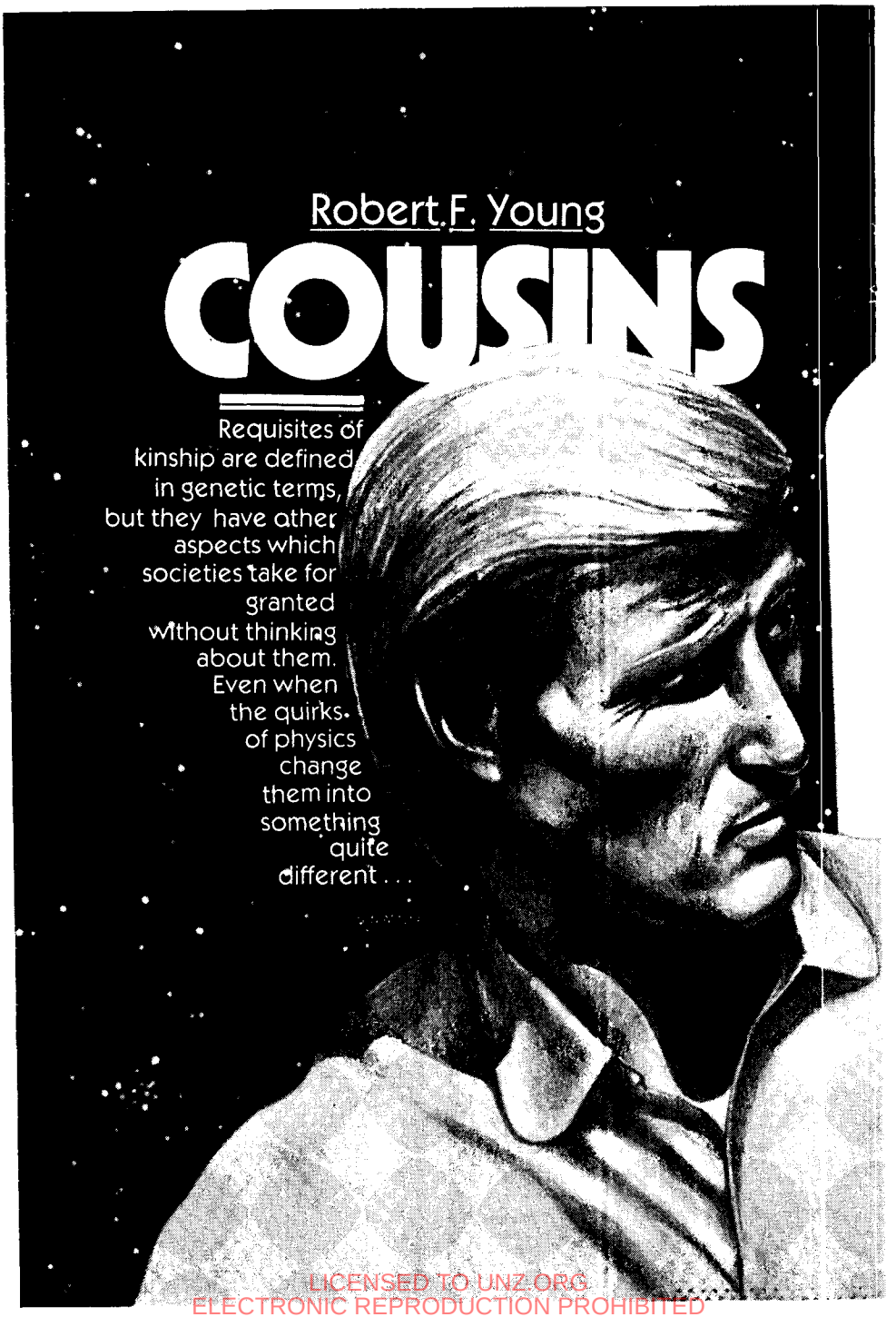
Photo: Darene Kululkhon

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Robert F. Young

COUSINS

Requisites of kinship are defined in genetic terms, but they have other aspects which societies take for granted without thinking about them. Even when the quirks of physics change them into something quite different . . .



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

The cemetary is not a large one. I had no trouble finding her grave.

I knew of course that by this time she would be dead.

Her mother's grave and her father's grave are close to hers. She had no brothers or sisters.

I took her to the stars with me. I tried to leave her behind, but I could not. But my fellow astronauts, Beaumont and Morris, did not know I had brought her with me. This was because I never let the memory of her show upon my face.

The roses which I placed upon her grave have already begun to wither in the summer sun.

Again I read the bleak inscription on her headstone: *Beth Hullman. Born: April 6, 1989. Died: May 4, 2021.*

Hullman was her family name, so I know she never married.

But why did she die so young?

I would have married you, Beth. I wanted to. But if I had, they'd have scratched my name from the list.

Astronauts slated to edge the speed of light must be free from all earthly ties.

I had to make a choice. I chose the stars.

I learned to hate them, Beth. They turned blue and laughed at me while the Lorentz-FitzGerald contraction made a mockery of my life.

Old-young, I stand here by your grave. Would that I lay beside you.

A wind comes out of nowhere and bends the sun-bleached grass. The maples along the narrow cemetery road whisper to each other in its breath. The new sun-celled roadster I bought with part of my back pay sits in the afternoon shade. There is another roadster parked just behind it. A sleek, red Ponse. I did not hear it drive in. A girl in a white summer dress steps out of it and walks toward me between the graves. She walks the way Beth walked, with a light, sure step. Her hair is dark-brown and recalcitrant, the way Beth's used to be, and she has combed it to her shoulders the way Beth once combed hers. Her face is full, like Beth's, and her nose is Beth's nose too, sweeping down with delicate grace from between dark birdwing brows.

I do not believe in ghosts, but I am shaken when she comes to a halt before me. She is staring at me as though my reality has upset her as much as hers has upset me. Then I see that her face, despite its strong resemblance to Beth's, is not quite the same. It is full, yes, but it lacks the little-girl aspect Beth's had, and there is greater determination in the line of her rounded chin. Nor does it possess the "beauty mark" that adorned Beth's left cheek. But the eyes!—they are the same: Deep brown, with microscopic flecks of gold . . .

For a long while she does not speak. It is as though all the words she ever knew have fled from her mind. Then she leans forward and kisses me on the cheek and says, just the way Beth would have, "Welcome home."

She does not need to tell me who she is. I know. But the knowledge came too late.

Why didn't you tell me, Beth? Why didn't you say, "Jerry, you *have* to marry me now."

I'd have said to hell with the stars!

Children grow up and beget chil-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

dren—did you think of that, Beth? And they in turn grow up and beget more children. You told our son or our daughter who I was, Beth, so that in the far future there would be someone to welcome me home. But Beth, you forgot about your genes!

If you had told me you were going to have our child, then at least I would have been prepared. I would not have been caught like this, with all my defenses down.

But then, if you had told me, I wouldn't have gone to the stars.

Why didn't you say, "Jerry, you *have* to marry me now."

"I've been driving by here every day," my great granddaughter says. "I was sure that sooner or later you'd visit her grave."

Why didn't you come to White Sands? You wouldn't have been permitted to talk to me, but you could have waved to me when we climbed down from the ship. This is what I want to say, but I stand like Prufrock in the sun and say instead, "I brought roses for her grave."

She looks down at them. "I love roses. She must have too."

"She died so young. Why?"

She does not lift her eyes quite back to mine. Instead she rests them on the pocket of my shirt. "It became a melanoma. The 'beauty mark' on her cheek. When she found out, it was too late."

It is some time before the shock fades away. By then she has lifted her eyes the rest of the way to mine. What a deep brown they are! How pied with flecks of gold!

"I guess you know who I am."

I nod my head.

"She never told you she was going to have a baby, did she."

"No, she never did."

"My name is Robinette. Robinette Fields. But most people just call me Robin."

"You—you live in town?"

"In a big, pretentious house. My father is the General Manager of Metrobank."

"My grandson?"

"Yes. My grandmother—your daughter—is the Head Librarian of the McKinnseyville Library. Her husband died last year."

It was a girl then . . . Why didn't *she* come to White Sands?

"You have another grandson, but he lives in California. He never married."

"Do—do you have brothers? Sisters?"

She smiles the way Beth used to when she had something rueful to say, and for a moment I am again convinced she has risen from her grave. "No. I'm the last of the Fields. But I'm going to carry on as best a mere girl can. I've graduated from law school and I just passed my bar exam, and this fall I'm joining a law firm. There, now that I've filled you in, you can come home with me."

I would rather plunge into a black hole. "I think it will be better if I just continue on my way."

"You'll do no such thing!"

"Robin, I can't go home with you."

"Yes, you can. And just where were you going anyway before you found out about your family tree?"

Nowhere. But I cannot tell her that. "Robin, I'm an, an anachronism—don't you see?"

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"No, I don't see. Please get in your car and follow me."

There is importunity in her eyes. There is another quality which I cannot put my finger on. "And what will you say when we come in the door? 'Mom, Dad—guess who I brought home! Great-Grandfather Walsh!' "

She touches my hand, and the forlorn castle, whose foundation has already been knocked awry, comes tumbling down to the ground. "No, I shall say, 'Mom, Dad—this is Jerry.' They'll know who you are."

I must have smiled, for she smiles back. Before we leave I kneel down and rearrange the roses on Beth's grave.

McKinnseyville has grown, but very little. It acquired the aspect of an oasis when I was stationed at the nearby Space-Training Base. But it is an oasis no longer. It is only a small, dead town, baking in the hot summer sun.

The Fields live on the outskirts, where most of the newer houses are. Their porticoed house stands well apart from the others. A turnaround semi-circles its front lawn.

I lived with foster parents till I ran away at the age of sixteen. Compared to this house, their house was a shack. I have never known a house since then. Only barracks and bleak rooms.

And the cubby hole I slept in in the *StarSearch*.

My granddaughter-in-law does not meet us at the front door. I stand in the big living room as she descends the spiral stairway in answer to Robinette's call. There are many new things under the sun. My granddaughter-in-law is not one of them. I am willing to bet that this blond and slender woman in the flowing lime-green dress descending the stairs with the put-on airs of a queen once belonged to the PTA. I am willing to bet that she and her husband are members of the Country Club, that each winter they sojourn in the south and that he has his car and she hers. I am willing to bet that weekly aerobics in the high school gym are responsible for her svelte figure, and that were it not for cosmetology her hair would be the color of sand.

Her eyes are green.

"Mother, this is *Jerry,*" Robinette says. "I found him putting flowers on Great-Grandmother Hullman's grave."

She does not offer to shake my hand. Why should she?—I'm an utter stranger, even though she may have seen me on 3V. Instead, she says, "Fred will be extremely pleased. I must go tell our *au pair* that we will have a guest for dinner."

"My daughter," I ask Robinette, after my granddaughter-in-law leaves the room. "Does she live here too?"

"No. She lives on the other side of town. I'll call her that you're here. But first let's go back out and get your bags."

"Robin, I can't stay here."

"Why can't you?"

"You know why. Your mother and father are more than twenty years older than I am. I'll be a constant embarrassment to them."

"You won't be an embarrassment to me. In fact," she says, and there is a twinkle deep in her eyes, "you and I come awfully close to being the same age."

"But that only makes it worse."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Does it really, Jerry?"

The twinkle I saw in her eyes is gone. I am frightened by the quality that has taken its place. Frightened—and made helpless. We go out and get my bags and carry them upstairs. The door of the bedroom across the hall from the guest room she chooses for me is open. The bed is covered with a pink counterpane. There is a pair of slippers lying on the thick rug. Attached to the wall above the escritoire is a yellow college pennant. I know whose room it is.

My grandson is a tall, trim man whose brown hair is neatly edged with gray. His face is narrow, his nose somewhat pinched, his resolute mouth a thin, straight line. Beth's genes seem to have skipped him altogether, and I can find no sign of mine.

He says, "Welcome back," after we shake hands. I am thankful he did not add, "Grandpa."

Dinner is a solemn affair. He sits at one end of the table, my granddaughter-in-law at the other. Robinette and I sit facing each other across the middle. The *au pair* is a squat, middle-aged woman with a blowzy face. She serves us the five courses of which the meal is comprised.

This is the way the rich eat. But I doubt that my grandson is as rich as he puts on. Probably I am far richer than he. The enormous price I paid for my car hardly took a bite out of my back pay. But I do not feel rich, sitting there at the table. I feel like a country bumpkin. My suitcoat is too full, it hangs upon me. My necktie, I am sure, is improperly tied. My hands, so deft in manipulating shipboard controls, have become big, truckdriver-hands that fumble with forks and spoons.

Robinette makes mention of the planet Beaumont Morris and I found. My grandson changes the subject and begins talking about the economy. As usual, it is in bad shape.

The planet we found is a small sister of the big Jovian world that had lured us across space, and is as dead as the Moon. There are two other planets in the system, both gas giants the size of Neptune; and although there are satellites galore not a single one of them is hospitable to life, so I do not blame my grandson for changing the subject.

Nor do I blame him for again changing the subject when Robinette mentions that Beaumont and Morris and I were each awarded the Congressional Medal of Honor, a fact he must already have been aware of, since the media gave it considerable play. The sad truth is that we were awarded the medals only because the people at NASA thought they had to do something to make our long journey seem worthwhile, when they knew as well as we did that they would have done far better if they had just dumped the taxpayers' dollars down the drain.

During our absence, as though to add ironic overtones to our failure, astrophysicists conquered the curvature of space and paved the way to the discovery of three *inhabitable* planets.

No, I do not blame my grandson for brushing aside our dubious fame and going on to something else (this time, the summer drought), when out of common courtesy he could at least have said a word or two about what his grandfather had *tried* to do. I do not blame

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

him at all. Nevertheless, his total lack of interest serves to make something painfully clear:

He does not like me.

And when my daughter fails to put in an appearance, something else becomes painfully clear:

She does not like me either.

Robinette is furious. I can see the fury in her deep brown eyes, but it is evident only to me. Later on in the evening when we go for a ride in her Ponse, she says, "You remind them of a bit of family history they've tried to forget. I would have warned you, but none of them ever let on the way they felt, and anyway, who would ever dream in this day and age that even three middle-class snobs would care one way or another whether or not they'd sprung from legitimate stock."

"I would have married her if I'd known she was pregnant."

"You don't have to apologize to me. I'm glad you didn't marry her. If you had, you wouldn't be here."

She has turned off the headlights and is driving by the light of the full moon. We have the country road all to ourselves. She turns down a wooded road that leads to the lake and parks on a bluff that overlooks the beach. She says, "When the *StarSearch* returned I sat in front of the 3V screen for hours so I'd be certain to see you climb down from the ship. I'd read all about you in books. The books I read said that but little time would pass for you, and that when you returned to Earth you'd be but little older than when you'd left. I didn't quite believe them, although I wanted to, and I half expected to see three old men climb down from the ship. And—and then I saw you."

"Why didn't you come to White Sands?"

"Because I was afraid you really would be old."

"When I saw you, I thought you were Beth."

"I am Beth, in a way."

Far out upon the lake the lights of fishing boats dance upon the water. The goddess Diana looks down upon us from the mountains of the moon. We can hear the lake take in and breathe out its breath.

Robinette says, "I cut your picture out of an old magazine when I was only sixteen. I still carry it in my purse."

I almost dare to kiss her cheek.

"I think we'd better go now, don't you," she says. "I think we'd better go before it's too late," and she backs back to the country road, and Diana looks down upon us with her omniscient eyes as we return the way we came.

The next day I go to see my daughter.

I do not even know her name.

She sits behind a big, bleak desk, her gray hair pulled back into a bun. I study her lined face for some sign of Beth. I do so in vain.

I cannot even find a vestige of myself.

She looks up at me with her faded blue eyes. "Yes?"

"You must know who I am."

She says nothing. I see then that her eyes are filled with hate. I wanted to ask her about Beth, but now I no longer dare. I am the father she never saw, who ran away and left her mother to die.

The library has no aisles of books I can hide among. There are only naked

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

cabinets of micro-films. And the door by which in I came.

I find my way back to it, and walk out.

I drive down the street where Beth used to live. Her house and several others on the block are gone. In their place stands a Senior Citizens' Center. On its dried-out front lawn old people are playing croquet.

I drive out to the Space-Training Base. I find rusted fences, rotted barracks, and crumbling concrete structures. I liken myself to an archaeologist who has come upon the ruins of Rome.

I am introduced to the goings-on of the upper middle class. Robinette and I play tennis and badminton and golf. We go swimming in her father's in-ground pool. She introduces me to her friends. We go out almost every night. We sit sometimes in quiet cafés, looking at each other over our drinks. Often we do not say a word. What words are there to say?

One night when we are sitting in yellow candlelight a young man about my age walks in from the bar, slaps Robinette on the shoulder, says, "Hi, Rob," and pulls up a chair and sits down. "I stopped by your house, and they said you'd gone somewhere with your great-grandfather and that maybe you'd be here. You were supposed to write —remember?"

He gives me a funny look. "Jerry," Robinette says, a touch of color in her cheeks, "this is Bud Downs. We went to college together. Bud, this is Lieutenant Commander Jerry Walsh. You must have heard about him, or seen him on 3V. He's been to the stars."

Bud's face lights up. He has the handsome, blunt features of a born jock. "Oh. Sure. But I didn't know he was related to you, Rob. Hi, Grandpop!"

He puts his hand on Robinette's knee. She brushes it off. He blinks at her. "Hey, how come? Grandpop here, he won't say a word—will you, Grandpop?"

There is anguish in Robinette's eyes. "Please go away, Bud."

"*What?*"

"I said, 'Please go away.' "

He stares at her. Then he stares at me. He gapes. Then he swings furious eyes back to Robinette and says, "You incestuous bitch!"

I am upon him then. The table tips over and the glasses catapult to the floor. The candles become transient falling stars. He is bigger than I, but if he were twice as big, he still wouldn't stand a chance. Robinette seizes my arm before I can lash out at him again. We are the cynosure of stares. The bartender hurries into the room. Bud shakes his fist at me and leaves. After I pay the bartender for the damage done, Robinette and I leave too.

We go for a long ride in her Ponse. The night wind is cool upon our faces. After a long while she says, "I never dreamed he'd come to see me."

"It got to me when he put his hand on your knee."

"I'm sorry."

"My God, if you had to sleep with someone, why did you pick someone like him?"

"I'm sorry," she says again.

She finds the narrow road that leads

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

to the lake and parks on the bluff in the same place we parked before. There is no moon tonight, no Diana with omniscient eyes—only the stars, and the lights of fishing boats far out on the water.

Robinette says, "There was never anybody else but you."

I touch her hand.

"It's unfair. We're no closer than second cousins."

This time I dare to kiss her cheek. At once, she is in my arms. The stars I learned to hate look down at us with self-satisfied eyes as we get a blanket out of the trunk and walk down a winding path to the beach.

In the days that follow we continue to play tennis and badminton and golf, and to swim in her father's underground pool. We continue to go out almost every night. In the middle of the night when the house is dark and silent, she comes to my bed or I go to hers.

Sunday mornings we go to church with my grandson and my granddaughter-in-law. They are Methodists. I was a Methodist too, before I left for the stars. The church is brand new, but the song it sings is as old as the hills. I sit beside Robinette in the Fields's pew. My grandson likes to exhibit me, for although it is true he does not like me, I am still an asset to his prestige. My first apostasy is a family secret. The second he knows not of.

"Saying, 'I have hid my feelings, fearing they should do me wrong;'

Saying, 'Dost thou love me, cousin? weeping, I have loved thee long,'

Whenever I say those lines, Jerry," Robinette breathes into my ear, "I know it's all right for me to be in your bed."

I have my own bit of Tennyson. The words run often through my mind—

She is coming, my own, my sweet,
Were it ever so airy a tread,
My heart would hear her and beat,
Were it earth in an earthy bed;
My dust would hear her and beat,
Had I lain for a century dead;
Would start and tremble under her feet,
And blossom in purple and red.

We wear our masks by day, but sometimes they fall off and bare our faces. Robinette's friends begin giving us curious looks, and when we walk into cocktail lounges the buzz of voices momentarily ceases. Bartenders leer at us whenever we stand at bars.

Robinette tells me again and again that we are the same thing as second cousins. And she is right. But she cannot see the middle class because she is inside it.

My grandson is not a fool. Yet he is one of the last to tumble. And I do not think he would have tumbled even then if my granddaughter-in-law had not whispered hearsay into his ear.

He tiptoes down the hall one night to my room. I hear him coming. But Robinette and I are not fools either, and in the naked radiance of his flashlight he finds me all alone in my bed. She does not come to me till afterward, when he is snug in his.

At breakfast we sit like innocent children, our masks in perfect place. But the seed has been planted, and even without nutrition will grow into a horrendous tree.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

* * *

Robinette finds me packing my bags. "Jerry, please don't go."

"What are the lines? 'I could not love thee, dear, so much, Lov'd I not honour more.' "

"But you're not going off to war!"

"No. I'm just retreating from the field."

"I won't let you."

"Everybody knows about us, Robin."

"So what if they do? We're not the first cousins who ever fell in love!"

"You know as well as I do that they see us in a somewhat different light."

"If you're going to go, I'm going with you."

I sit down on the bed.

"Look," Robinette says, "next month after I become part of the law firm we'll be living in the city, and no one will ever guess we're related."

"They'll find out."

"Even if they do, it won't matter. People living in the city don't give a damn about such things."

"About this they will."

"Then let's just thumb our noses at them, Jerry. There's no law that says we can't be lovers."

No. Not yet. "I was only thinking of what it'll do to you."

"What do you think it'll do to me if you run away?"

I am weak. I do not get up and finish packing my things. I go on sitting on the bed.

My daughter writes me a vicious little note and leaves it in the mailbox in an envelope addressed to me. You ruined my mother and left her to die. Now you're ruining my granddaughter. May God bring the wrath of Heaven down upon you, you incestuous dirty old man!

Two centuries ago I would have been tarred and feathered and ridden out of town on a rail. And Robinette would have been thrown into the streets.

But nothing, really, has changed.

We do not go to bars any more. We avoid all public places. We steer clear of her friends. We go for long drives in the country. I no longer dare to go to her bed, but she still dares to come to mine.

You could say, how was I to know, and how was she? You could say that the blame for our apostasy should be laid upon the lap of space. You could say, well what would you have done if you were she or I? You could say that time has caught us in a trap. You could say that when all is said and done, what difference will it make? You could say a hundred, a thousand such things, but your words would be like dead leaves falling from a tree, and the people walking down the road, the people who pay false homage to a god they made and who drink coffee, wine, and tea, whose mores form halos around their heads, would pay them no more heed.

The building is old. It is one of the oldest buildings in the city. It has Gothic overtones. I look up to see if there are gargoyles staring down at me from the eaves, but I see only the lowering sky.

Robinette has parked her car at the curb and I have parked mine just behind it. She gets out and comes back to where

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

I am sitting behind the wheel and leans over the door and kisses me. "Wish me luck."

"I thought it was all set."

"It is, but I haven't signed the contract yet, and being lawyers, they might have changed their minds."

"And miss out having someone as beautiful as you in their firm? Never!"

She smiles and I mark down the memory of her face. "You can come in and wait in the outer office."

"No. I'll wait here."

"As soon as I come back we'll go looking for our apartment."

Trim in an azure suit, unforgettable, she clicks across the walk and ascends the granite steps. I watch the door devour her. I watch the people walking by on the street, but I do not see them. I start up the car and join the traffic flow. I leave the top down, even though I know that at last it is going to rain.

Saying, 'Dost thou love me, cousin?" weeping, 'I have loved thee long."

I leave the city far behind. Toward evening it begins to rain. I can hear the raindrops pattering upon my grave, but I do not hear her airy tread, and I know that by now she, too, must be dead. ■

A FEW WORDS FOR JUDY-LYNN DEL REY

This is not an obituary, but sometimes even a tribute delivered to a person still living comes too late. For many years Judy-Lynn del Rey has been well known in the science fiction community as a most remarkable and talented person. Together with her husband Lester del Rey (also well known for his own stories, many of which apppeared in *Astounding*), she created Del Rey Books, made it one of the foremost publishers of science fiction, and kept it that way. On October 16, 1985, Judy-Lynn suffered a sudden brain hemorrhage and since that time has been in a coma from which doctors see little hope of her ever emerging. She will probably never read this, but she and her work have been most highly valued by all in this field, and her active presence will be sorely missed.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

on gaming

Dana Lombardy

This is my final column for *Analog*. Since the January, 1983 issue when my first column appeared, I've covered nearly 100 different science fiction and fantasy games. I want to thank Stanley Schmidt, the editor, and the associate editor Shelley Frier, for their patience with my often tardy column, and for their open-mindedness toward those readers who, like myself, make games an important part of their SF avocation.

Although I'm no longer writing the column, it will continue each issue. Matt Costello, an experienced reviewer who is a contributor to *Games* magazine, will be taking over my job starting next month. Matt is not only an objective reviewer, he's also an entertaining writer. If you've enjoyed this column up to now, you should enjoy it even more in the future with Matt's fresh perspective and sense of humor.

You may wonder why I'm leaving. Yes, there's another magazine in my life now, one that I helped create. I have a special offer for all my loyal readers at the end of this column—it's my gift to everyone who made this column possible, and gave me the encouragement to continue writing.

For my final column, I want to give you a brief overview of some of the great titles available in the areas of role-playing games, board games, etc. If I reviewed a particular title in a previous issue of *Analog*, I've noted the issue month and year in parenthesis.

The hottest new SF role-playing games (rpg) include: *Twilight: 2000* (Oct. 85), a you-are-part-of-World-War-III rpg by Game Designers' Workshop; *Paranoia* (May 85) by West End Games, a gallows-humor satire about a future society controlled by a paranoid computer (you'll need lots of clones to play this one); FASA Corporation's *Star Trek: The Role Playing Game* (Nov. 84), based on the television series and movies; and *Chill* by Pacesetter Ltd., a game for all those readers who are fans of Steven King-type horror stories.

Some other important rpg that are still going strong include: *Traveller*® by Game Designers' Workshop, the first SF role-playing game; *Star Frontiers* by TSR Inc., the company that published *Dungeons & Dragons*® more than ten years ago and started the role-playing genre; *Car Wars* by Steve Jackson Games, which is also a great Road Warrior-style board game; *Call of Cthulhu* by Chaosium Inc., an almost unpronounceable game for enthusiasts of H.P. Lovecraft's macabre stories; and *Space Master* by Iron Crown Enterprises, a new SF design by the company that publishes the *Middle-earth Role Playing* series of games and modules based on J.R.R. Tolkien's famous fictional world of elves, hobbits, orcs, and men.

If traditional board games are more

(continued on page 172)

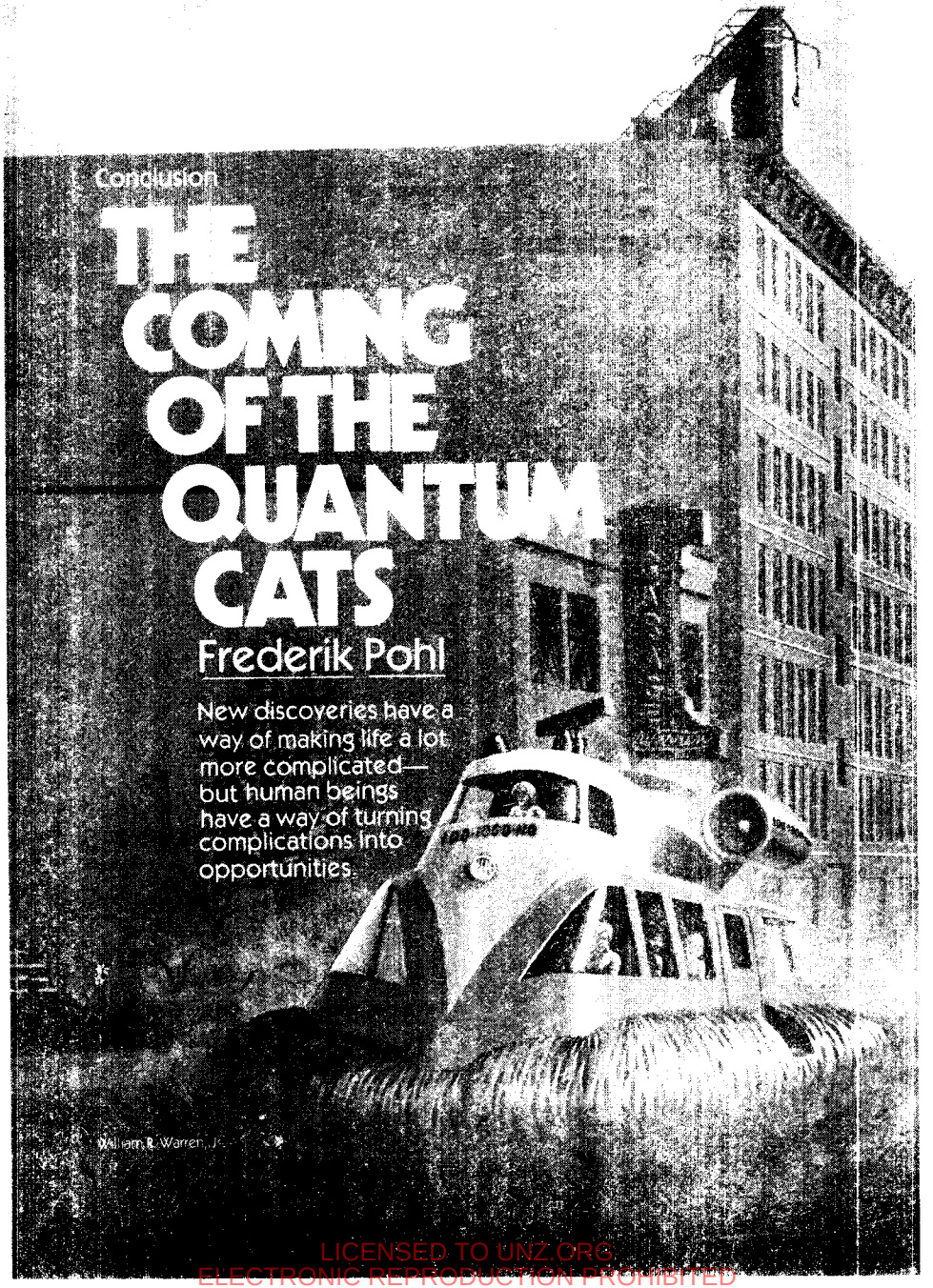
LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Conclusion

THE COMING OF THE QUANTUM CATS

Frederik Pohl

New discoveries have a way of making life a lot more complicated—but human beings have a way of turning complications into opportunities.



William R. Warren, Jr.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

It is customary to print a disclaimer in novels, saying that the characters are fictitious and no resemblance to any real person, living or dead, is intended. This is, in the case of this story, wholly true, in spite of the fact that some of the characters have names made famous by position and deeds. The reason is that, in each case, the characters portrayed are what the real-life characters might have been . . . if they had been someone other than the persons they were.

SYNOPSIS

My name is **Dominic DeSota.** *People usually call me* **Nicky** *for short. I've got a good job as a mortgage broker; and I've got a good-looking girlfriend, who is a stewardess on the high-speed trains, and all in all the summer of 1983 was a really good time for me, right up until the time I unhooked the top of my bathing suit and was arrested for going topless by the F.B.I.*

At least, that's what I thought it was. It turned out worse than that. They said I'd been seen sneaking around the super-secret research installation of **Daleylab,** *and they had photographs and fingerprints to prove it.*

Well, that was crazy! I'd never been near the place. I didn't even know what they did there—some people said they were trying to invent an atomic bomb. Others said they were building some kind of rocket ship that would actually go out into space. Some even said they were inventing something called "television." I didn't believe any of that junk. I did believe, though, that Daleylab was off limits to anybody not cleared by the Arabs or a recognized religious institution, and the last thing in the world I would have wanted to do was to get in trouble with them.

Nevertheless, they had those photographs and prints. The head F.B.I. agent was a woman named **Nyla Christophe.** *She was a terror. Her thumbs had been amputated, which meant that she'd been caught at some serious crime like shoplifting or selling liquor to someone under the age of 35, and how a person like that got into the F.B.I. I couldn't imagine. But there she was, and she had me under arrest.*

Fortunately, I had witnesses who swore that I was somewhere else at the time the surveillance camera took those pictures. Nyla Christophe made my life miserable for a while, but she finally let me go.

Then my troubles really began.

A shadowy figure named **Larry Douglas** *turned up. He offered to help me by taking me to meet an old retired movie actor, one of those flaming liberals from the old days; he'd been blacklisted by the films for union activity and retired to his home in Dixon, Illinois. About all I knew about Douglas was that he claimed to be the grandson of some old Russian revolutionary named Djugashvili or Stalin or something who'd come to America when the revolution fizzled and started a successful men's-wear furnishings business in New York. I went along with him, though. I had dinner with this old couple, Ronnie and Jane. I didn't really expect much help from them. Who would listen to a has-been movie actor? But I didn't get really suspicious until I began to think that Douglas wasn't particularly interested in me, he was just trying to trap old*

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Ronnie into making some sort of anti-Arab or irreligious remarks. I wondered what he was up to. . . .

I found out, all right. Douglas was some kind of stoolie for F.B.I. Agent Nyla Christophe, and the way I found out for sure was that when I went to meet my girlfriend at the train station, the F.B.I. arrested me again. Not only me. They picked up the whole crew of the Twentieth Century Limited, my girlfriend Greta included, and this time they didn't intend to let any of us go.

And meanwhile. . . .

My name is also Dominic DeSota, but nobody calls me Nicky. They call me **Dom** *if they know me well enough, but most of the people I meet call me Senator. That's what I am, a U.S. Senator from the state of Illinois and, I think I can say, a fairly important one. I'm on friendly terms with President Reagan, even though we're not of the same party. In fact, I'm even friendly with her husband, Ronnie, the First Gentleman. I was a happy man then, in August of 1983. I had everything going for me, including a love affair with the most beautiful, and maybe the best, concert violinist in the world,* **Nyla Christophe Bowquist.** *(It was a problem that we were both married to other people, but nowhere near enough of a problem for me to think of ever giving her up.) Because Nyla was on the road so much, giving concerts, our time together was limited. But what we had we loved—not only for each other, but for our circle of friends in Washington, like good old Jack Kennedy, my fellow Senator, and his wife Jacqueline, and the Russian ambassador,* **Lavrenti Djugashvili.** *They must have suspected what was between Nyla and me, but they never hinted at it. They may not even have gossiped about it behind out backs, because there was never any scandal.*

It was a nasty shock when I got a phone call to say that "I"—they swore it was I—had been seen in the **Cathouse** *at Sandia National Laboratories in New Mexico.*

See, Sandia was secret in itself, because all sorts of research went on there. The Cathouse was the most secret of all.

Hardly anybody knew about the Cathouse. Even most Senators didn't—except a few people like me, because we were on the oversight committee that was in charge of all secret defense work. You see, there were some scientists who thought that there was an infinite number of parallel worlds, similar to our own, but differing in detail—say, in one of them the American Revolution never occurred and we were still subjects of the Queen; in another a meteorite had wiped out the human race; in another organic life had never evolved at all on Earth—well, there was an infinite number of possibilities; and also an infinite number (they supposed) of "paratime" worlds. Of course, there was no real evidence of this. There was only mathematics. But the mathematics made them believe that this was so, and that it might even be possible to peep into, perhaps to travel into, such paratime worlds.

All this has to do with what they call "quantum mechanics," and they tried to explain it to us ignorant Senators by quoting a man named Schroedinger. He is supposed to have said something like,

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Suppose you have a sealed box with a cat inside it. The cat is either living or dead, but you can't know which until you open the box—so the best you can say, before opening it, is that there is a fifty-fifty chance of the cat's being alive. But a cat can't be fifty per cent alive. It has to be one or the other. And what this really means," Schroedinger is supposed to have said, "is that it is both *alive and dead—but in two separate universes."*

I can't say we really understood that, but the military implications were obvious, if it were true, and besides it was a really cheap project to run. So we authorized it; and we named the place where that particular research was done after Schroedinger's cat, the Cathouse.

It was there that "I" had been caught.

Naturally, I flew out there at once. I confronted myself, and by God it was *myself—same retina prints, same bone structure, in every testable way this man who called himself* **Dr. Dominic P. DeSota** *was me. But he wouldn't talk. He wouldn't say how he was there, or why; and just when I was beginning to wonder if we shouldn't go against all my principles and use some kind of force to make him talk, he disappeared.*

But that wasn't the end of it.

On my way out of the building we were surprised by a squad of soldiers. Their commander was another me, this one wearing a major's gold leaves on his battle dress; and he took us prisoner. The United States, he told us, was being invaded—by the United States; and if we knew what was good for us we would surrender.

* * *

My name is Dominic DeSota, too, but I'm not the Senator. Nor am I either the poor mortgage broker, Nicky, or the Major who led the first attack force from Time Gamma to Time Epsilon's research facility at Sandia. I'm **Dr. DeSota,** *theoretical physicist, and I wish I had stayed with theory, because this whole thing is at least partly my fault. I didn't invent paratime. But I did have a lot to do with making it possible to cross from one time to another.*

I used to be proud of that.

When we first began putting objects then people, through to other times, we were aware of problems. One was what we called "ballistic recoil." There is a conservation law which means that if something is added by transport from one time to another, something else is sucked into the first and expelled from the second. This meant that windows were opening between times that were not under our control, and so people in one time saw and heard things from another. Sometimes physical objects were transported. Since we were operating on a pretty small scale, we could afford to ignore that.

We thought.

The other main problem was not scientific. It was, I guess you would say, political—or military, perhaps—anyway, we wanted to know if other times were likely to be able to peep us, and project persons or things in on us, as we could to them.

So we sent out scouts.

I went myself, often enough. I went to Daleylab to see what they were doing (not much; it was quite a backward time, the one we called Time Tau). And I went to the Cathouse in Time Epsilon,

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

just before the invasion from Time Gamma led by my other self, **Major Dom DeSota.**

I got back safely every time, but unfortunately I wasn't the only scout who went into other times to snoop around. One of the first was my associate, **Dr. Larry Douglas.** *He'd gone into Time Gamma a couple of years earlier. . . and he hadn't come back. They caught him.*

I don't know what I would have done in Larry's place, but I hope I wouldn't have blurted out the truth. And I am almost sure that I wouldn't have gone on to tell them everything I knew about paratimes—enough so that, in less than a year, they could develop their own paratime gates. . . .

And use them for war.

They weren't really declaring war against the other United States. Their enemy was the Soviet Union. All they wanted from the United States of Time Epsilon was free passage to the dismembered and powerless U.S.S.R. of Epsilon, so that they could first spy, then insert nuclear weapons upon, the vastly more powerful and dangerous U.S.S.R. of their own.

The plan might have worked, if they had gone about it the right way—that is, if they had used persuasion and an appeal to common interest, maybe with a few bribes thrown in.

They didn't. They used force. They invaded the Sandia Cathouse with assault troops, demanded President Nancy Reagan's capitulation; and when they didn't get that, they launched an armed attack on Washington DC itself.

Unfortunately, I got caught up in all this personally.

My former colleague (and now chief scientist of the Time Gamma attack) Larry Douglas, along with my other self, the prisoner Senator Dom DeSota, managed to get away from the Gamma authorities by plunging through the gate into another time. It turned out to be Nicky DeSota's Time Tau.

It wasn't a good time to blunder into. There was no Sandia base worth mentioning there, and so they emerged into a trackless desert. They nearly died of thirst and sunburn, and Douglas got bitten by a snake—unfortunately, not lethally—before they were picked up and turned over to the F.B.I.

That's when I got personally involved. I rescued them—the Senator and Nicky, plus our renegade scientist, Larry Douglas. And while I was at it I took along the F.B.I. woman, Nyla Christophe, and her own private stoolie, the other Larry Douglas.

The bad news was that Gamma's invasion of Epsilon had escalated. The attack on Washington DC was now a matter of tanks and cannon. There was a piece shot off the top of Epsilon's Washington Monument, because a Gamma artillery man had thought there were fire-control spotters in it. The White House itself was occupied by the invaders, and President Reagan, with all her staff, was hiding out in a big hotel. In the same hotel was Senator Dom's light-of-love, the violinist Nyla Christophe Bowquist, who seemed to be the Epsilon copy of the Tau Agent Nyla ("No-Thumbs") Christophe of the F.B.I.

The situation was getting serious. A lot more serious than any of that would indicate, too, because something else was going on.

We ourselves were being peeped from

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

another time, and we hadn't a clue who was doing it.

When I got back with my "liberated" crew—two Larry Douglases, two Dominic DeSotas, and the clutch from the F.B.I.—the best thing we could do, it seemed, was for all of us to go to poor shot-up Washington-Epsilon, to explain to their President what was going on, to prove it by displaying all the various copies of us . . . and to offer what help we could give against the invaders. It wasn't just that we were prepared to fight and die for freedom everywhere. It was, actually, that the ballistic recoil was showing up in many places, on a larger scale every day; locusts from one time were devouring crops in another, people were being tossed into strange eras, storms were raising hell with half the country. I was also getting a little tired of hearing the complaints from our captives—particularly that other Dominic DeSota who was a United States Senator when he was at home. The other thing he was seemed to be a lover: he was deeply involved with a woman named Nyla Christophe Bowquist, in spite of the fact that both of them were married to other people, and he wanted to get back to her to straighten their lives out.

So if we went back to Epsilon he would be reunited with his love, and we might, actually, be able to end the invasion of Epsilon by Gamma. . . .

Which would leave only the problem of what wholly other bunch of paratime snoopers was silently watching our every move.

That was the scariest of the problems, actually. But it was also the easiest to deal with. There was nothing that we could do about it, however worrisome the implications. So that's what we did about it: Nothing.

27 August 1983
8:40 P.M., Mrs. Nyla Christophe Bowquist

They kicked me out of my pretty suite in the hotel. Even Slavi couldn't prevent it, because the whole top part of the hotel was taken over by the President and her staff when the White House was occupied; but he made the manager give me a room on the fifth floor. It was all right. There was a bed for me, and a bed for Amy. She didn't mind listening to me practice, and there certainly was no other reason in the world why either of us needed privacy. Not for my dear Dom's visits, because Dom wasn't around. Not even for my phone calls from my husband in Chicago, because there were very few of those. Not even Ferdie could get through the clogged lines to Washington most of the time.

That was a mercy, because I still had not made any sensible decision about what to say to Ferdie.

I hadn't made very sensible decisions of any kind, it seemed to me. Staying in a war zone wasn't sensible in the first place. Effectively I was trapped. The airport was in enemy hands, so were all the bridges over the Potomac, so might be almost any road leading out of the capital, because the troops of the other guys were turning up in at least patrol strength almost anywhere. By the time I had finished dithering about whether to catch the next flight to Rochester, there wasn't any next flight to Rochester, and there were firecracker sounds from all over the city that were scary.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

The radio said the gunfire wasn't serious. I didn't agree. When I looked out the window and saw the smoke from Anacostia, or the top chopped off the Washington Monument because those other guys had thought our guys had an artillery spotter up there, it looked serious enough for me.

So when Jock McClenty knocked on my door I opened it scared.

I didn't expect good news. I couldn't imagine where good news might come from, that mean and rainy Saturday night. When I saw Dom's assistant, with the Secret Service man standing beside him, my first guess was that we were all being arrested. "Mrs. Bowquist," said Jock, "it's the Senator. He's back. He's right here in the hotel, and he sent us to bring you to him."

Well, that was it. I cried. *Buckets*. I don't know why, exactly, I guess most likely because I had been storing up tears unshed for so many different reasons that any nudge would spill them over the top. Out my eyes they came. I was still crying when we got to the penthouse, although it took quite a long time—we had to go clear down to the lobby, pass through city police at one checkpoint and Secret Service people at another before we got into an elevator in a different bank.

Sniffling into the fifth or sixth Kleenex the Secret Service man had given me (how nicely they train those people!), I got out and looked around. It was a suite that made my suite look like a peasant hut in Cambodia. Duplex. Ankle-deep carpeting. Cathedral-style windows in a salon with fifteen-foot ceilings. The first person I saw was Jackie Kennedy, standing by a window and talking to somebody, and the second person I saw was the somebody himself.

It was Dom DeSota.

"Dom!" I yelled, and hurled myself at him, still sniffling.

It was Dom, all right, but he didn't hug me as Dom would have, he didn't say what Dom would have said to me; he didn't even smell like Dom. He smelled of pipe tobacco and a wholly different brand of after-shave, and most of all he did what Dom would never have done.

He pushed me away.

He did it gently—even kindly—but he pushed me away all the same; and so I wasn't in the least surprised when Jackie put her hand on my arm and said, "Nyla, dear? It's the wrong one."

Well, that was all right, as it turned out, because the right one was there, too. He was halfway up the circular stair that went to the President's private quarters on the level above, but when he saw me he came whooping and leaping down and I got my hug after all. He didn't say anything at first. He just held me. I held him back, meaning it—meaning it so much that if Marilyn and Ferdie themselves had been there, cameramen on one side of them and their divorce lawyers on the other, I wouldn't have given up one squeeze or one moment. Then he loosened his arms a little, and looked at me, and kissed me; and then he said. "Oh, love!"—glancing back at the stairs.

At the top of them the President's appointments secretary was standing, tapping his foot. "Go ahead, Dom," I said, understanding. "I'll be here when you get back."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

So then he was gone again, and Jackie was trying to explain what was going on on one side of me, and Jock McClenty was doing the same on the other, and I finally got them both to understand that what I wanted more than explanations was a chance to freshen up a little. And a minute later they led me through a bedroom that must have been designed for the Shah of Iran—mirrors on the ceiling and, good heavens, a real Picasso on the wall—into a bathroom that had a washstand with golden knobs.

It was a good thing I had a chance to put myself together, because when I came out of the Czar's bathroom into the Shah's bedroom I discovered that it had been turned into a sort of holding pen for all of us.

When I say "all of us," I don't just mean "all of us." I mean more "all" and more "us" than I had ever meant before in my life. My Dom was back—the President had kicked him out for some private confabulation with a couple of generals—and Dom and I were, of course, the big "us" in my life. But there were *three* of him. If you counted in the one whose face we'd seen on the TV, there were four.

And there were two of *me*.

I had had a lot of trouble accepting the fact that there was more than one of the man I loved, but, boy, I didn't know what trouble was until I had to face up to the other one of me. It reminded me of the time, two or three years before, when Ferdie and I had gone off for a weekend in the Wisconsin Dells to try to save our marriage. I took my spayed Siamese cat, Panther, to stay with Amy in her little apartment, along with her spayed female calico, Poo-Bear. It wasn't a happy meeting. The first thing Poo-Bear did was leap up on top of a knick-knack shelf, knocking half of Amy's carved wooden animals on the floor, and the first thing Panther did was dive under a bookcase. They didn't hiss or growl or spit. They just stared at each other across the room, all the time I was there—though Amy told me later that within half an hour they were licking each other.

It was a lot like that with me and this other Nyla, although I saw no chance at all that we would ever be licking each other. She sat in one corner, looking at me and occasionally whispering to the man next to her, who looked seven feet tall and half that much wide. Nasty-looking bit of business, he was. I sat on a Queen Anne loveseat with Dom, *my* Dom, holding my hand and my head on his shoulder, while Dom tried to tell me what things, what amazing things, he had been doing since I saw him last. And the two of us, that Nyla and me-Nyla, stared at each other and couldn't stop.

Although I studied her more closely than I had ever inspected any other woman, I didn't notice that she had no thumbs until Dom whispered to me about it. That wasn't the only difference. The expression on her face was different from any I believed I had ever worn—cynical? Wry? Maybe even envious? All the same, she was *me*.

I was very, very grateful for Dom's arm around me.

With all that going on, it wasn't surprising that I didn't notice the other odd thing. The fact that there were three Doms in the room was bad enough; the presence of another Nyla than me was

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

worse. But we weren't the only duplicates. When I finally took my eyes off the other Nyla long enough to pay attention to the others, I saw that the Kennedys were talking to two of what looked like my old friend Lavrenti Djugashvili, and they were looking at me.

"*Shto eta, Lavi?*" I called across the room, impartially to both of them. They both looked baffled.

Dom laughed and tightened his arm around me. "They're not the Ambassador," he said. "He's out at the airport, meeting some Russian scientists who are coming in to meet with us."

"Oh, lord," I said, laughing because it was better than crying, "are there two of *everybody?*"

"Not just two," he said somberly. "An infinity, I'm afraid. But of me and you, there's only one me and one you that matter, and we're together. Let's keep it that way."

So then there were suddenly two more of "us" in the room, although the new two were only imaginary. They were very clear to me, all the same, Marilyn on one side of us, Ferdie on the other, and the expressions on their faces were full of anger and hurt and accusation.

It was fortunate that they were only imaginary, at least at that moment, however real they would be later on. I closed my mind to them. "If that's a proposal," I said, "I accept. I don't want us to ever be apart again—not counting when I have to go on tour, I mean."

"And not counting election campaigns," he grinned, "I promise."

It is astonishing how easily you can make a promise that you will not be allowed to keep.

* * *

Still, there were the real Marilyn and the real Ferdie, and we owed them at least a little discretion until we told them what was going on. In spite of everything—in spite of all the weirdness that was going on, not to mention the fact that my country was being invaded right outside the hotel window—I could still worry about propriety. Especially when I noticed Jack Kennedy studying us appraisingly out of the corner of his eye while he talked to Lavi's doubles.

I flushed and sat up. I didn't push Dom's arm away, but I moved a little bit outside of it. Dom came to the same realization I did at the same moment. I felt him lean away.

Then he came back to where our bodies were touching, and the arm was on my shoulders again. Proudly. Almost defiantly. Oh, hell, I thought, we're past the point of being discreet. If our affair had ever been a secret, our secret was no secret any more.

The luxury of the suite wasn't limited to gold bathroom fixtures. There was a kitchen attached to the suite, and a hotel chef, sous-chef, and waiter attached to the kitchen. "Eat up," said Dom—my Dom—"it's all being paid for by the taxpayer." So we ate. I found I had a ravenous appetite. So did the paratime travelers. Apparently they hadn't been fed a lot lately, and they made up for it. And there was conversation, too. I didn't take much part in it, because I was busy listening, trying to make out just what was going on.

Dom did most of the explaining, and Jack Kennedy did most of the asking. "There's a million. A million million million, maybe. I think the right word is 'infinity.' "

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Remackable," said Jack. "I had no idea." He was sitting across from us, holding Jackie's hand as Dom was holding mine. I wished that when we were their age we would be as loving, in spite of our rather bad and adulterous beginning. (But there were all those stories about Jack and heaven knew how many women, long ago, and their marriage seemed to have survived.)

"We can only reach fairly nearby ones," said Dom. "Dr. Dom here—" he nodded cordially to the one I had flung myself at, who was dubiously nibbling at a platter of falafel—"knows more about it than I do."

The other Dom swallowed. "They're almost like yours and mine," he concurred, "but there are, of course, some differences. In the one that's invading you, Jerry Brown is the President of the United States."

"Jerry Brown!" breathed Jack. "That's the haddest thing of all to believe."

"But it's so." The other Dom lifted a forkful of the falafel and said, "This is pretty good. I'll have to see if I can find somebody to make it back home—that's another advantage of paratime, you see, learning different things that improve the quality of life."

"I can't say ours has improved a lot, Dawm," Jack said wryly. "Go on about the other time lines."

"Well, there are a couple where Ronnie Reagan is President."

"*Ronnie?*"

"Yes, and in those lines Lyndon Johnson was President twenty years ago, and before that *you* were. Only—" He hesitated, as though it were hard to say it. "Only in that time you were assassinated in office, Senator. By a man named Lee Harvey Oswald."

Jacqueline either swallowed or gasped—the sound was somewhere in between. Jack glanced worriedly at her, then back at Dom. His expression was as divided as her sound. For the top half of his face his eyebrows were quirked with mild curiosity; but his jaw muscles were clenched. "Lee Harvey Oswald? Wait a minute—was it—yes, I remember, the guy who shot the governor of Texas?"

"The same one."

"Remackable," breathed Jack Kennedy. There didn't seem to be anything else for anyone to say. It was a conversation-stopper. Then Jack shook himself. "My poor wife," he smiled, patting Jackie's hand. "Do you know what kind of a widow she made, Dr. DeSota?"

"I, uh, don't remember exactly," that Dom said apologetically, and for some reason I didn't think he was telling the truth. Jack nodded absently. He thought the same, it was clear; but he was saved from having to ask questions by a major with gold braid dripping from his shoulders. He came into the room, fresh-shaved, hair neatly brushed, eyes as weary as any man's I have ever seen; he looked as though he hadn't slept for two or three nights running, and probably he had not.

"Senator DeSota?" he said tentatively, looking from one Dominic to another. "The President will see you now. All three of you, sir," he added; and Dom, my Dom, hugged me, kissed my cheek and got up to leave me.

I sat down with the Kennedys. I suppose we talked. I'm not sure what we

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

talked about, because my mind was too full of things. Including the other Nyla. Although we had discontinued our staring match we had not lost interest. She was standing by the buffet table, dexterously if thumblessly slicing bits of cheese for herself and her anthropoid companion. Although I didn't catch her eyes on me, I was sure that every time I looked toward her she had just looked away. I wasn't in any doubt about that impression, because I was doing the same for her. It almost seemed to me that she was more interested in me than I was in her, or anyway interested in me in a different way. Not just idle curiosity. Purposeful, although I couldn't imagine what the purpose was.

I decided that she and I needed to talk.

I didn't put the decision into practice, though, because just as I was making up my mind to go over to her, Lavrenti Djugashvili, the real one, came in, smiling, mopping his brow, gazing curiously at the other Nyla before coming over to me. "So very confusing!" he said, kissing my hand and then Jacquelyn's. "Such a difficult day!"

"You brought your boys over," the Senator asked.

"Oh, yes, of course, Zupchin and Merejkowsy, two brilliant physicists from Lenin Theoretical Studies Institute. Then was advised my own presence no longer desired," he added wryly.

"Gave you a had time, did she?" asked Jack Kennedy sympathetically.

Lavi shrugged. "I speak no evil of your president," he said, spreading his hands to show how fair-minded he was being, "but is clear to me she does not like Communists, myself very much included."

The Senator also demonstrated his fairness. "I don't speak much good of the lady myself," he said, "because she's in the wrong patty. All the same. She's got a lot on her mind, Lavi. They've captured her husband. They've taken over her White House. She doesn't want to be reasonable right now, and most of all she doesn't want to be the first American President since 1812 to have an enemy occupy her capital."

"Oh, yes, to be sure," Lavrenti agreed. "Especially since there is this new activity from the invaders—" He paused, looking at us. "You have not been informed? But even on the television the news is there for all to see! Surely there is such a device somewhere in this palatial apartment? Come, let us find it!"

There was indeed such a device, although it was hidden behind the doors of a carved mahogany breakfront, and, yes, there was plenty of news on it for us.

None of it was good.

We tuned in to the middle of live-action shots of hard fighting. It wasn't in some faraway land. It was only blocks away from us, at the far end of the Mall, all around the Capitol. Tanks and personnel carriers seemed to be coming from around the Supreme Court building, fanning out to take the Capitol in pincers from both sides. There were bodies there. The camera zoomed in to take a closer look at some of them, and I wished it hadn't. Cut to another shot, and we were looking at a file of tanks. Peculiar ones. I did not quite understand

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

why they seemed peculiar until Lavi choked out something—it sounded angry and dirty, but I couldn't tell what, because it was in Russian. He switched to English to say, "Is a new weapon, Dominic!"

And then the proportions sorted themselves out. They were tanks, but they were tiny—not more than six or seven feet long, only knee-high off the ground, and each one with a great gun swinging from side to side over its body like the whip of a scorpion. "Have nothing like this in Soviets," Lavi said plaintively.

"We don't in this America, either," breathed Jack Kennedy. "Radio-controlled, I bet! Sweet Baby Jesus, look at that sucker shoot!" Because those cannon weren't for show: they were firing on the Capitol, and at each round great mushrooms of masonry and smoke popped out of the Captiol walls.

The scene changed. We were looking at NBC's war room, very much like the election-night headquarters they trotted out every year. Behind Tom Brokaw and John Chancellor was a wall-to-wall situation map of the District of Columbia, and they were explaining what had been happening.

They didn't have to say much. The pictures said it all. Nearly a quarter of the city was now shaded red—red for occupying forces—the area around the Capitol where we had just been looking, the White House, the Ellipse and most of the space around the Washington Monument, a big section along the river and spotty areas all over the District. And along most of the perimeters there were flashing red lightnings that signaled actual combat going on right now.

Brokaw was pointing to the Capitol. "The most recent breakthrough," he said, "began without warning just forty-five minutes ago at First Street and Constitution Avenue. Simultaneously fighting broke out at nearly every other point in the city where our troops face theirs." He named them, one by one, and then began a recap. "Incongruously," he said, "there has been constant telephone contact between the headquarters of the invaders, in the White House, and ours, at an undisclosed location somewhere within the District. It is known that the invaders have captured three Cabinet members and at least three-quarters of the Combined Chiefs of Staff and their immediate staffs, as well as several Senators, Congressmen, and other major figures of government. Ronald Reagan is himself a captive. All of the hostages, as our government has termed them, have been allowed to make taped voice messages which have been transmitted by telephone. Here is the voice of General Westmoreland—"

I had heard it. I didn't hear it again. I was looking at Nyla Christophe, and this time she was looking back at me. From the little Dom had whispered to me I had expected—I don't know—a kind of Gestapo agent combined with Mata Hari. She didn't look like that. What she looked like was me. She was sitting on her hands, so I couldn't see them. What I could see was a woman of my age, my face, my body—well, no, perhaps she was six or eight pounds slimmer than I, but that certainly was not to her discredit—a woman whom I might have seen look back at me out of my mirror any morning. I knew that she had instilled fear. I had never done that, no, not to anyone at any time; I didn't

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

think it was possible for me to cause physical fear in anyone, ever. But I had not grown up in a world that cut a young woman's thumbs off for shoplifting. She didn't speak to me, though there seemed to be nothing hostile in the way she studied my face. I didn't speak to her, either, though I was beginning to feel that if we did talk, if somehow she and I might somehow sit down over a just-us-girls-together dinner (it would be mostly salads, with perhaps one cocktail each to make it festive), we might actually get along very well.

I almost stood up and went over to talk to her. If I had been able to catch her eye, just at that moment, I think I would have, but she wasn't looking at me.

She was looking at the staircase going up to the President's private quarters on the floor above. The Secret Service guards at the bottom were no longer standing around, watching us all for any sign of threat. They were moving around the great salon, ordering everybody to back up against the walls; as one came near he called, "I'm Jenner, Secret Service; the President is being evacuated."

"Evacuated," snapped Senator Kennedy. "What's the problem, Jenner? Are we in danger?"

"Possibly so, sir. If you want to leave you can go as soon as the President's clear. There's a way out through the underground garage—but stay put while her party is leaving. Please," he added, and then as an afterthought, "Sir."

And down the stairs came the President with her entourage. More Secret Service people, three of them women; some District Police with Captain Glenn leading them; the WAC liason colonel carrying the nuclear-weapons codes; four or five staffers trying desperately to talk to the President even while she was walking down the stairs, one hand on the banister. And she was answering each one of them. I've never agreed with Nancy's politics, but she really looked presidential, even in retreat.

As soon as the President was in the elevator the remaining Secret Service man called something up to the upper-floor suite, and the people who had been with the President were allowed to come down. One big gaggle of them I recognized at once—Dom, in fact all three Doms, along with the two Russians, both the Larry Douglases and a couple of other no-doubt scientists fresh from their meeting with the President.

I didn't wait to see if I was allowed to move. I hurried over to the stair as my Dom hurried down it to meet me.

He stopped almost at the bottom. I stopped, too. There was a sudden mutter in the room, people catching their breath, making sounds of astonishment and concern. I didn't know what it was —exactly. I did think that suddenly there were fewer people coming down the stair than I thought there should have been, but I wasn't looking at them.

I was looking at Dom, and he was looking at me.

Then there was a sort of chill in the air and a—I guess you should call it a silence. The kind of ear-popping silence that you get in a jet when suddenly you adjust to a pressure change. Dom felt it; I could tell by the puzzled expression on his face.

Then there was no expression on his

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

face at all, because there was no Dom there to have one.

Like that.

I was looking at him, and then I was looking through him. He wasn't there any more. I saw the cherry-colored stair carpet, and the gold brocade that edged it, but of the man who had stood there there was no sign at all.

In fact, none of the scientists was there.

I cried out. So did half the other people in the room, but none more loudly, or with more reason, than I.

Before the man's head was an object—perhaps it should be called an image—about the size of a beach ball. It was composed of points of light. Seen from outside, a galaxy might look like that, if the galaxy were densely enough packed with stars. Most of the points of light were pale blue, but within the sphere were angry tracings of green, yellow, orange, even red, like the radiating lines of gangrene around an infected wound. Over the sphere was a line of what might have been mirrors reflecting the man's concerned face —except that they were not mirrors. Some of the images had longer hair or shorter or less, some were tanned and some pallid, some fatter, some thin. "Now that we've synched," said the seated man, "I think we can see the extent of the problem. I've measured harmonics up to sixth-order already, and still propagating." He paused to look at the other faces for disagreement. There wasn't any. "If this goes on," he said evenly, "I project a nine-nines probability that within one standard year the disturbances will be effectively both plenary and irreversible."

27 August 1983
10:50 P.M., Major DeSOTA, Dominic P.

Being a major is not really being a major when you have no troops to command, and they had taken mine away from me. There was fighting going on. At a quarter of eleven every gun we had put through the portal began firing at once. The fighting was bloody. I knew this because I was watching the reentry portal under the bridge, and I could see the casualties coming back. But I wasn't taking any part in it. I was standing around with my thumb in my butt, waiting for someone to tell me where I was supposed to go and what I was supposed to do.

The whole operation was beginning to look very bad. Maybe even terminally bad. The new troops going through the portal south of the bridge weren't heads-up, eyes-bright, combat-ready killers. They slouched into the big black square and didn't talk. And the ones coming back—

The medics had their hands full.

Through the return portal I could hear the sounds of gunfire and the *whomp* of mortars and grenades. Even the air that came through was bad air. It was a hotter, damper August there than in our own time, and it smelled. It smelled of burning and of dust and shattered plaster. It smelled of sewers ripped open with shellfire, and of the Diesel stink of the tanks.

It smelled like death.

Under other circumstances, it might have been a nice night. I could imagine

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

strolling along here by the river, with my arm around a pretty girl, being very happy. It was hot, but what else would you expect of Washington in August? It was sultry but not unbearable, and though there weren't any stars in the sky there was the constant zap-zap of our strobes, dozens of them now. I did not really think they were fooling the Russian satellites any more, but they were pretty to look at as they flashed against the patchy clouds.

However, the circumstances were bad. I was a long way from being a hero. At least they'd got me some other clothes to wear—slacks and a sport shirt, probably from the nearest K-Mart—so I didn't have to look like a fool in that rented tux any more. But that didn't stop me from feeling like a fool. What I was more than anything else was in the way. I stepped back to avoid a half-track lumbering back through the portal with a cargo of stretchers, and I bumped into another rubbernecker, as idle as I. "Sorry," I said, and then saw the general's stars on his collar. "My God," I said.

"No," said General Magruder mildly, "it's just me, Major DeSota."

It isn't easy to feel sorry for a general, especially a general like Ratface Magruder. But this was a whole other man than the one who had chewed his way all up and down my ass back in New Mexico. He had a doomed look about him, and it didn't take long to find out why. All it took was asking him, as politely as I could, which aspect of the operation he was commanding, and him telling me shortly, "None of them, DeSota. I've been reassigned. Fort Leonard Wood. I'm flying out in the morning."

"Oh," I said. There wasn't anything more to say. When a general gets pulled out of an ongoing operation to take over a training post you don't have to say another word. I guess my face showed what I was thinking. He grinned at me. It was not a friendly grin.

"If you're still worried about a court-martial," he said, "forget it. There's about a hundred people ahead of you in line."

"That's good to hear, sir," I offered.

He looked at me with surprise and contempt. "Good?" He rolled the word around in his mouth. "I would not have said 'good' about any of this." He glared at the portal, where a limping sergeant was leading a woman with second-lieutenant's bars sewed onto her fatigues and her head wrapped in bloody bandages. He burst out, "That stupid bitch president! Why did she make us do it?"

"She's crazy, sir," I said, currying favor.

"Damn right she's crazy! But," he said darkly, "at least I understand why she's crazy. She's not a traitor. And that God-damned egghead—"

"Sir?"

"That scientist!" he snarled. "I don't mean Douglas, I mean our own guy. You know what he tells us now? We could have saved the whole fucking operation! There's worlds we could have used where there aren't any people at all!"

"No people, sir?"

"Where the whole damned human race blew itself up years ago," he said testily. "He's peeped them. Like where

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

they had an all-out nuclear war back in the seventies or so. Sure, some are too radioactive, we can't use them. But there are some that aren't. We could have gone into one of them. No opposition. Nobody there to give us any. We could have sent a fleet of transports through, flown them over to Russia, set up portals wherever we wanted them. Shit! We wouldn't even have needed bombs! Just push a nuclear warhead through, a thousand of them if we wanted to, all over the Goddamned country—or what used to be their country—you want a cup of joe?" he finished abruptly.

"Why—"

"Come on," he said, and tramped across the street to the headquarters building. "We didn't know," he said gloomily over his shoulder. "Now it's all fucked up."

Even a general relieved of command gets what he wants. The colonel with the papers in his hand glared at me, but I was shielded by the stars. He didn't say anything as Ratface drew two cups out of the urn and handed me one.

"This new operation, General—" I began.

"Yeah, yeah. We've got her pinned, I think. Only how much time have we got left?"

"Time, sir?"

"The Russians," he explained. "They're getting antsy." He took a long pull of the coffee. It was about two degrees under boiling, and just sipping it seared my throat. He had a throat of cast iron. "The word's getting out, DeSota," he said wearily. "Prisoners talk to their guards, guards talk to their girlfriends. Casualties talk to their nurses. They even talk to reporters. We can't keep the lid on this much longer—what's the problem, Colonel?" he demanded, looking at the commandant.

The colonel was pawing through his papers. "Excuse me, sir," he snapped, not in an excusing tone, "but is this man Dominic DeSota? Yes? Jesus, DeSota, what the fuck are you doing here? You're in the wrong place! You're supposed to be going through at the sally point—get your ass up to the Zoo right away!"

Magruder hitched a ride with me. He didn't ask. He just jumped into the Jeep from one side as I was climbing in from the other, and I didn't argue. He didn't say a word as the driver gave it the hammer. There weren't many cars. Civilians had got the word; they weren't venturing out much any more. The traffic lights turned their colors at their own pace, and we went through the intersections with the horn blaring, red or green regardless; and there was nothing to stop us until we turned into the avenue.

Then there was plenty.

The whole of the avenue was blocked. It was like the lineup for an inauguration day parade, with all the military might of the republic filling the little side streets, the squad leaders in their gold and crimson helmets pacing restlessly back and forth in front of their vehicles, talking to their shoulder radios, ready to go on signal. Only they weren't getting ready for a parade. They were getting ready to go through the portal after Madame President. And there was another incongruous note. One lane along the avenue had been kept clear to evacuate some of the larger zoo animals,

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

upset by the noise, scared by the commotion. Vehicles like horse vans, but with heavily barred windows, were taking away lions and leopards and gorillas. Behind them the frantic keepers were leading the giraffes and the elephants and the zebras through the hot Washington night. Our driver slammed his horn button. An elephant trumpeted furiously back. "Shit," yelled Magruder in my ear, "we'll never get through this! We'll walk!"

Even walking was no joy. The combat vehicles were not moving; dodging around them meant dodging out of the way of elephants—and now and then, away from steamy great heaps of elephant turds. Ratface Magruder moved like a quarterback carrying the ball through scrimmage, yelling over his shoulder at me. I couldn't hear what; I was too busy trying to follow him to the portal inside the Zoo gate.

Nothing was going through the portal.

"Shit," yelled Magruder again. "Come on!" And he headed for the Zoo cafeteria, where the commanders were huddled around a television screen.

"What's the problem here?" he snarled. A two-star general looked up.

"See for yourself," he said, jerking a thumb at the screen. "That's a satellite transmission from the League of Nations in Geneva."

A fat man with pince-nez glasses was reading a speech into the cameras; the voice that came with it was a woman's, not his, translating the Russian into English.

"The Russkies?" guessed Magruder.

"Good thinking," said the major-general. "That's the Soviet delegate speaking. Notice how sleepy he looks? It's maybe six A.M. there; he must've been up all night."

"What's he saying, sir?" I asked.

"Why," said the general politely, "he's saying they have, what did he say? incontrovertible evidence that we're planning to attack his country by means of a parallel time. He's saying that unless we discontinue our 'invasion' at once his people will treat it as though it were an attack on their own country. That's a laugh, isn't it? The Russians protecting the Americans from the Americans?"

I swallowed. "Does that mean—?"

"That they'll attack? Yes, that's what it seems to mean. So take a load off your feet. We're holding off on any further troop movements until somebody figures out what we're going to do—and, thank God, that somebody is higher up than me."

Because she was one of the very few who could understand the man's slurred speech, she was the one allowed to guide his wheelchair over the bumpy, ancient walks of the college. But she could not manage the steps. "I'll find someone to help," she said, and bent to listen to the breathy whisper. "Oh, no," she said, "it's no trouble, Dr. Hawking!" And she meant it. Even in the sweltering heat of England's hottest August—it had to be over seventy-five degrees!—helping a world-famous scientist to navigate Cambridge's pretty paths was not an imposition. It was an honor. And a responsibility; and when she came back with a husky crew member and an eager Greats from King's College she cried out in pain. "But he

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

couldn't have got out of the chair!'' she wailed. Yet there was the empty chair, straps still buckled, footrest still set high for his shrunken legs . . . but Stephen Hawking was no longer in it.

Yr 11-110 111-111, mo 1-000, da 11-101
Hr 1-010, mn 11-110, Senator Dominic DeSota

You do not get used to jumping from one parallel time to another, even when you know it's happening.

I didn't know.

All I knew was that at one moment I was hurrying down the stairs from the President's penthouse, looking for my lady love. Then, without perceptible delay (though it must have been hours, might have been days), I was lying flat on my back, listening to a honeyed voice whisper into my ear that I had nothing to worry about. That's the kind of thing that starts me worrying. I knew a lie when I heard one, and I was worried.

That is, the reasoning part of my head was worried. My body did not seem to be worried a bit. It was lying there perfectly relaxed—I don't think I had ever been quite that relaxed before, except maybe now and then after a really good toss-and-tumble with Nyla, when we'd lie back with every knot in either body untangled entirely. I don't mean that my state was in any way sexual, just that I was wholly and completely at a condition of physical ease.

There was no reason for that. There was every reason in the world why I should have been tense and scared, and should have shown it in taut muscles and twitchy nerves. There was nothing in sight or sound that was reassuring in the least. I was lying on a hard pallet in a room that looked as much like a morgue as anything else I'd ever seen—a dozen other pallets, each with a body recumbent on it—and it even smelled medicinal and nasty, as I thought a morgue should.

The person who was whispering sweetly in my ear wasn't reassuring, either. She didn't have any face. Or he didn't; you couldn't tell, because there was nothing but a flesh-colored blankness between hair and chin. It moved a little as the voice spoke but showed no features at all. She (or he) was saying, ''You will be well treated, uh, Senator, uh, DeSota, and you will be completely at liberty.'' And he was looking at me (or she was), though I could see no eyes, because s/he was touching me here, touching me there, and everywhere he (she) touched there was a tingle or a pang.

Something was being done to me. I just let it happen.

And that was another thing. I let it all happen. I don't mean I wasn't shaken up—no, scared—hell, terrified! But whatever my conscious mind told my head to be, my body was relaxed and compliant. It did what it was told. It didn't even need to be told in words; touch and gesture was enough, and instantly my body held still, or turned over, or presented a part of itself for the occasion.

It occurred to me at once that I'd seen something like that before, when Nyla No-Thumbs and the other were zapped into sleepy-by before we were rescued from the New Mexican motel. But they had just been asleep; this was much,

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

much worse. And then I had been only an observer. I had not had this present indignity of having my body roll over and elevate its rump for a final shot.

It was at that point I realized I was naked. I might not have realized it then if the voice hadn't said, "You can get up and get dressed now, and then proceed into the hover."

My obliging body pulled on a pair of shorts, a pair of tennis shoes and a sort of T-shirt from a rack—they all fit snugly, less because they were my size than because they were a kind of fabric that didn't care what size I was. Then I obligingly walked after the (wo)man and out of the doorless cubicle. No, there weren't any doors. No, one didn't magically appear. All that happened was that shehe walked up to the wall, and kept on walking, and so did I—along with seven or eight equally complaisant bodies belonging to people in the same beige one-size-fits-all beachwear.

And, as a matter of fact, we were at a beach. Or close enough. We were at a kind of an airport, a curious mixture of the shiny-new and the terminally decrepit, on a hot, hot summer day, with the salt-marsh smell of seawater and dead fish strong on the breeze and waves glinting across a roadway. Behind the stump of a flagpole a cement block had letters picked out in seashells embedded in the surface. The snows of winter and summer suns had done them a lot of harm, but I could still make out what they said:

FLOYD BENNETT FIELD

Behind the squat, white building we had just come out of (there was no door in the outside wall, either) a delta-winged plane came in with a ripping sound of jets at a hundred miles an hour, dropped flaps, rotated its engines and sat down a few yards beyond the building. It rolled a couple of feet and stopped. The building, on the other hand, began to move. It shuddered, picked itself up and slid over to the plane; while a quarter of a mile off to one side a bloated-bellied blimp was slithering in to a landing at another new white building. I turned to the happy zombie next to me and said, "Dorothy, I don't think we're in Kansas any more."

He gave me an irritated look. Then the look changed. "Don't I know you?" he asked.

I took a harder look at him. "Dr. Gribbin?" I said. "From Sandia?"

"Bloody hell," he said. "And you're the Yank Congressman. What the hell is going on, do you know?"

Well, how do you begin to answer a question like that? As I was casting round for an answer, a voice from behind me saved me the trouble. "It's a parallel time," said Nicky DeSota eagerly. "Do you understand about quantum mechanics? Well, it seems that Erwin Schroedinger, or maybe it was one of the people who came after him, proposed a long time ago that every time some kinds of nuclear reactions occur, which can go either way, they go both ways. This means that—"

I turned away to keep from laughing. Here was the mortgage broker explaining Schroedinger's famous conundrum to one of the world's great experts on the subject! But Nicky had an advantage Gribbin had not: he had seen it all happen. Another man in the same shorts and blouse was wandering toward us to

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

listen to Nicky expound. I didn't pay attention. I was looking at this strange world around me, wondering why I was there, whether I would ever get back to a sane life in the Senate—well, strike that; but to a kind of insanity I was at least used to—wondering, most of all, where my love had gone. There were women in our group, but none of them was familiar. And there was another woman, this one in the white overall, gloves and boots included, that the faceless person who was trying to shepherd us into the bus was wearing. The woman with a face was talking to the bus driver, but when she saw us approaching she jumped and hurried away as though we were lepers.

I didn't then know how apt that thought was.

I turned back to Nicky and Gribbin. "We'd better get on that thing," I said.

Gribbin gave me a puzzled look. Then the look deepened, as he glanced from Nicky to me. "You two chaps are the same!" he cried.

Nicky grinned. "That's part of it," he agreed. "Didn't you notice? You two are the same, too." And he was pointing to the other man, standing with his jaw hanging; who took one look at Gribbin, another at Nicky and me.

He felt his own face as though he had never noticed it before. "Bloody hell," said the second John Gribbin. Which summed it all up perfectly.

Whatever kind of happy pills they had given us, it was apparent that they were beginning to wear off. My fellow sheep were beginning to talk back to the faceless shepherd, not always politely. But as the drug level in my body declined, my rational self-confidence seemed to increase. Like Nicky, I had this experience before. It didn't make it pleasing. It did make it a little less nerve-wracking.

As far as I could tell, Nicky and I were the only two so fortunate in that bunch. None of the ones who had been with us in Washington was here now. I could live with that easily enough as far as it concerned the other Dom, not to mention the two Larry Douglases and the Russians. The fact that Nyla wasn't with me was a lot harder to take. I wanted very much to ask somebody if I would ever see Nyla again, but everybody else had questions of his own, and they were a lot scareder and angrier about it than I. "What's going on here?" demanded one of the Gribbins, and the faceless person said:

"You'll be briefed on the hover. Please get on now; it's waiting." And as she, or he, turned away, a man on the other side grabbed her (or his) sleeve. He had the kind of scowl that says, *I don't know what I'm into, but when I find out somebody's going to pay*, and he was insistent.

"I'm needed at the lab!" he protested. "There's a top-level meeting *right now*, and if I'm not there it's going to cost us half our grant for the next fiscal year—" He stopped indignantly, because the faceless one was laughing at him.

"The things you people worry about," he/she said indulgently. "On the hover! Now. Please."

I decided there wasn't any better alternative than to do as asked, so I boarded the thing. I took a seat up near the front, just behind the glassed-in

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

compartment that held the driver, and Nicky slipped in to the one next to me.

When the faceless person called it a "hover" I translated that into "ground-effect machine." So it was. I'd never been in a hovercraft, but when I felt the throbbing and bouncing underneath us, and we began to slippy-slide over cracked concrete toward the road, I knew.

I use the word "road" loosely. That's what it had been once. It had not been maintained for a long, long time. It stretched wide and empty before us, heading straight for a distant city skyline, but I could see the purpose of the hovercraft. Nothing on wheels could have handled the potholes and the curling edges of asphalt. The biggest holes had been roughly filled, the jaggedest edges bulldozed away, and someone had pushed off onto the side an occasional boxy old heap of rust that had once been an automobile. There were places where the cattail marsh had so completely reclaimed the roadbed that I could not see asphalt at all, only mown bulrushes with birds scattering out of our way as we whirred toward them. I stared at that remote skyline every time the hover turned enough to bring it into sight. Something about it looked familiar. . . .

Bouncing around with excitement in the seat next to me, Nicky DeSota cried, "It's New York! Gosh! I've never been to this part of New York!" He nudged me, grinning. "Did you notice? This thing's air-conditioned!"

"That's nice," I said; because all that he said was true, and interesting, but I was watching what was going on up ahead of us. The driver's compartment was closed off from our part of the van with a glass window. It had its own entrance, and the wo(man) who had led us to the bus was inside it. What I was watching was what s/he was doing. What she was doing was revealing herself to be a she. She ducked her face into her hand and pulled, and, wow!, that flesh-colored blankness slipped right off. There was an actual face there. In fact, rather a pretty one. She wriggled out of the top of her jumpsuit, revealing more proof of femininity, and then she turned to look back at the fifteen or twenty of us in the hovervan.

"Good morning," she said.

Next to me Nicky cried, "Good morning!" So did a couple of others, like fifth-graders on a school trip—which was about the way I felt.

"By now," she said, "your tranks should be wearing off, so let me explain what has happened to you. There is good news and there is bad news. The good news is that within the next ooty-poot days you will be able to move freely anywhere in the world you like, and it is rather a nice world. The bad news is that you will never leave it." She smiled sweetly. There was a moment's silence, then questions called out from all over the bus. The sweet smile did not fade. "I have not turned on your phones yet," she said, "so I can't hear you just now. Take a few minutes to talk among yourselves. Then I will give you a short information on what has happened and why, and what you can expect, and then there will be time for questions. The trip to your quarantine hotel will take about totter-tot minutes."

She gave us a last smile and turned back to the driver.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

It is hard to give a coherent and consecutive account of the trip—there was too much going on. Probably if I could remember being born it would be just as hard to describe it, because I was overwhelmed with the revolutionary newness of it all. We all were—or all but Nicky. I envied him the way he took it all in stride and exulted in the wondrous new strangeness of it.

I could not share it. More than anything else, I was wondering if I would ever see Nyla again. . . .

Any Nyla.

By the time the woman began her orientation talk we had left the salt water behind. We were gliding along a wide avenue between rows of fallen-down frame buildings and burned-out one-story stores. Two or three times we slowed to let another hovervan pass in the opposite direction, the drivers waving at each other; the ones going out were all empty. There were no other human beings in sight. I saw turtles as big as meat platters sunning themselves along the road, and once a coiled snake that I was nearly sure was a rattler. It did not move, though its head was raised and the beady eyes staring at us. I saw a fox chasing a rabbit, frantically zigzagging along what had once been a sidewalk, until the whoosh from our fans blew both of them over and I lost them behind us.

And I listened.

The first part of what she told us was a sentence of exile. "Uncontrolled exploitation of the paratime portal," she said reprovingly, "will lead to chaos, so we have stopped it. We have transported the principal experimenters, as well as all persons who were in displaced times, to this planet. At the same time we have rendered all paratime research centers uninhabitable by means of induced radiation. We had no choice in this matter. The alternative was destructive to everyone."

I stretched and yawned. We were going up a slight incline, with tall, unkempt trees reaching out over us from both sides. Ahead of us was a circle with twenty-story apartment buildings, the tallest I'd seen close at hand. They had all the windows broken out, and ivy climbed their sides. "Until dye years ago," the woman was saying, "this planet was uninhabited by humans. There was a long war, they called it the 'World War,' and somebody started using biological weapons. It wound up with everybody dead. All primates, in fact —there aren't even any gorillas left —but nearly everything else survived." She glanced at the back of her wrist as though she were consulting notes. "Oh, yes, you don't have to worry about the disease any more; that's one of the things you were inoculated against at Reception. And, of course, for all the organisms you all carried —shocking mix of bugs you people had." She dimpled a smile at us. Maybe there was some tranquilizer left. We smiled back. "Anyway, some of the times began using the planet for colonization purposes—people who were displaced from their homes for one reason or another, usually drought or something of the sort. And, of course, there's always a few people who just want to pioneer. But that makes it good for you, because there's a whole infrastructure waiting for you. You won't have to go out and

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

gather roots! This is one of the few cities that we've got working—more or less working—though, so mostly you'll want to resettle on farms. After all, food is the most important thing!''

This time nobody smiled back. Whatever any of us had been back home, it wasn't farmers.

I began to wonder just what socially useful skills a former United States senator, with a law degree and not much else, might have to offer in a new world.

We slid down a long hill toward a taller building still, a skyscraper with a clock at its top. (One face told me that it was a quarter past three, another, missing a minute hand, only said that it was somewhere between ten and eleven.) There were rusted trolley tracks under us, and just ahead an elevated train structure, also rusty. I didn't like the idea of snaking under it and through its pillars. But the driver knew what he was doing. We slowed to a crawl for a couple dozen blocks, then picked up speed again as the tracks veered off to the sides.

''Are there any questions?'' the woman asked brightly.

Nicky was first off the mark. ''What's a 'totter-tot'?'' he called.

The woman looked puzzled. ''What?''

''You said it would take totter-tot minutes. I *think* that's what you said.''

The pretty face cleared. ''Oh, I was forgetting. You're all decimal, aren't you? Let's see, that would be—um—'' she glanced at her wrist again—''the whole trip will take about forty and five minutes. About, um, twenty minutes more. Any other questions?''

One of the Dr. Gribbins had his hand up. ''A big one, miss,'' he said. ''I'm a quantum-dynamicist. I don't know bugger-all about pushing a plow.''

''Of course,'' said the woman sympathetically. ''That's a real problem, here. What we really need are farmers, construction workers, and engineers. There will be retraining programs, though.'' She smiled brightly at fifteen people who had suddenly stopped smiling back.

There were mutterings back and forth in the van, but no clear-cut questions came out of it. Probably none of us wanted to know the answers to the questions we had yet to ask. Personally I was craning my neck to see ahead, because I had caught a glimpse of a bridge. It scared me. I did not think I wanted to cross the East River on a bridge that had not had a coat of paint for half a century.

The woman was still smiling. ''If any of you would like to start work at once, there are job openings in your hotel. We need cooks, cleaners, chamber-workers and so on; you have to be self-sufficient for that sort of thing, you see, during the period of quarantine. And you will be paid for your work.''

I wasn't listening. I was bracing myself as we seemed to be heading for the crumbling approach to the bridge, then relaxed as we turned away—then braced myself again as we slowed down at the water's edge. Were we going to take a ferry? Swim across? Stop here, with the promised land just visible across the water, moldering skyscrapers and all?

It was none of the above. We didn't stop. We slid down a muddy, bulldozed bank to the river; and we slid right on across the water, exactly as easily and surely as we had been gliding over the

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

pitted old city streets. At the far end was the remnant of a pier. Nude bathers were sitting on the end of it, gazing at us incuriously. They were far more interested in one of their own, who had surfaced a few dozen yards away, pushing back his goggles and spluttering with pleasure as he waved the four-foot fish flopping on the end of his spear.

At least we were now in a part of New York where I had been before. I recognized Canal Street, though the signs were long rusted away. I didn't know any of the side streets we wound through—navigation was harder in densely built Manhattan—but I did recognize, or almost recognize, Fifth Avenue when we reached it. It was puzzling that there was no Empire State Building at what otherwise definitely looked like 34th Street, and curious that over the next wide intersection there was the remains of a spidery traffic-control booth, elevated above the street.

We stopped there for a moment, while both the driver and the guide put their flesh masks back on. "Almost there," the woman called cheerily. "It's called the Hotel Plaza. A little moth- eaten and moldy, maybe—but, my, what a beautiful view you get of the Central Park wilderness!"

By the time we were checked into rooms in the old hotel and given a meal, a lot more had been explained to us. We had a new identity. We were "Paratemporally Displaced Persons" or Peety-Deepies for short. We were in quarantine for a week, long enough for the nasties in our circulatory systems to surface, if any had been missed by the shots and sprays we'd received while asleep. And, although we would get out of the hotel in a matter of days, we would get out of this particular paratime never.

We were there for keeps.

It took a lot of the joy out of the old Plaza Hotel. The woman hadn't lied to us. It was a nice place, basically. It had even been a nice place, I remembered, in my own 1983 A.D., a stately old dowager of a place with historic associations—Scott and Zelda Fitzgerald had lived there, and had gone to play at midnight in the fountain outside.

Of course, it had not been maintained for sixty years. There hadn't been anybody alive in this world to maintain it. That showed. There was a funny, nasty smell in the ground-floor restaurant, as though animals had denned there now and then. (They had.) A quarter of the windows were gone, though most of them had been temporarily replaced by some sort of plastic film in the process of getting the place ready for us to occupy. The water from the plumbing ran rusty now and then, and there were whole floors where it didn't run at all. And the furnishings were deplorable, especially the beds. Cotton had turned into mold, mold had turned into dust, the springs of the mattress had turned to rust. Before we slept that night Nicky and I had to sweat and struggle new bedding up from the stacks in the lobby—bare wooden slats to stretch across the sides of the bed, still raw and sap-smelling from the sawmill, and clever air mattresses to put on the slats, compartmented and very comfortable . . . once we had puffed ourselves scarlet to fill each of the compartments with lungpower alone. We didn't have to worry about blankets, of course, not in

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

New York in August, in a hotel that had never known what air-conditioning was.

Not everything in the room was a moldering antique. One thing was very new. At first I though it was a television set, although it was a little puzzling that a sort of keyboard was attached. When Nicky experimentally pushed the "On" switch the screen lighted up, rosy background with sharp black letters that said:

HELLO.

WHAT IS YOUR P.I.D.?

Since neither of us knew what a P.I.D. was we couldn't satisfy its curiosity, and it stubbornly refused to satisfy any of ours. No matter what other keys or buttons we pushed nothing happened; the only key that worked was the one marked "Off."

The day went fast. By the time the sun went down we had made our bedsitter suite habitable—more or less habitable—that is, we'd collected towels and pillows and extra sets of clothing and soap and all the other things that ensured survival. We had discovered how to open the plastic-sheet windows to let some air in—mixed blessing, because with the air came hordes of mosquitos out of the rank vegetation in what had once been well-groomed Central Park. The lights in our room attracted them, so we turned the lights out.

We were tired. I showered and brushed my teeth, and while Nicky was doing the same I gazed out at the view of the park, as good as our guide had promised, if somewhat stranger. Just before us in the park was a busy scene, temporary buildings with people moving around, and vehicles; but a quarter of a mile farther was only blackness. Bright stars shone in the sky, a sight I had never seen from New York City in my lifetime.

It was a dead city. Only the little space around the hotels was the focus of infection where life was beginning to invade again.

And it was an empty city—for me it was a wholly empty city, because Nyla Bowquist wasn't there.

It struck me as a sad wonder that Nyla had been in that hotel, maybe in that very room, in our own time. I knew that she stayed in the Plaza when she played at Carnegie Hall, only a few blocks away. Perhaps she stood at that very window. What she would have seen was manicured lawns, a playground, a lake, Hansom cabs lined up at the entrance to the park and a million cars, taxis, and trucks creeping along the streets that bounded it. What I saw was the bubble-shaped temporary structures, and the lights of a blimp floating down to a landing on one of the lawns. . . .

I became conscious of Nicky standing behind me, still damp from the shower, running a comb through his hair. "Isn't it wonderful, Dom?" he breathed.

I looked at him with resentment —unjustified resentment, because it certainly was not his fault that he wasn't Nyla. "What are you talking about, Nicky? It's *exile*. We're stuck here forever."

He said, with audible sympathy in his voice, "I know it's tough on you, Dom, because you had a lot to lose. Me, maybe not so much. But it's not just exile. It's a whole new world. Eden! They've given us a new start in life."

"I didn't want a new start in life," I said, "and anyway, they didn't do it for our sake."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Well, sure, Dom," he said, turning modestly to slip on a pair of pajama pants. "But you have to admit they've put a lot of effort into this. Just fixing up this part of the city for us—do you have any idea what kind of work that means? Getting the water running again when some of the pipes would have ruptured? Starting an electrical generating system? Just cleaning up the garbage—and I don't mean just rotted-out bedclothes. There must have been people in this place when they all died. Bodies. Skeletons, anyway, and somebody has carted them all off before we got here."

"They probably wanted all that for their own purposes, anyway," I objected.

"But we're getting the benefit of it," he pointed out.

"We're being exiled here, sure. That's for their own good, too. They were worried about what would happen to them if this paratime stuff went on, not us."

He looked at me thoughtfully as he climbed into his bed. "They didn't have to go to all this trouble," he said. "I mean, transporting us here, feeding us, housing us, giving us clothes—"

"Sure they did! How else could they have stopped research?"

"Well," he said, settling himself under the sheet, "I can think of some people who would have taken care of it a different way. They could have just killed us, you know."

After the French-Indochinese wars there were a whole bunch of tribes that couldn't get along with the new governments. Some of them came to America. There was one colony of hill people who wound up in my own state, eighteen hundred refugees who hadn't ever seen a train, a television set, a gas stove or a vacuum cleaner. Talk about culture shock! But it wasn't learning how to drive cars and run lawnmowers that threw them the hardest. It was the things we take for granted. How to pop open a beer can. How to use a credit card. Why the red light meant stop and the green light meant go. Why you should not urinate other than in an approved receptacle, even if you modestly went behind a tree. When I led the state's Congressional delegation down to welcome those Meos, just outside of Carbondale, I was sorry for them, and a lot amused by them.

If any of them had been with me in the Plaza they could have redressed the balance. I was as lost and confused as they, and this time it was harder to see the humor in it.

Nicky and I spent the whole first day just learning rudimentary survival skills in the new world, and at the end of it what I had mostly learned was that it was even harder than it looked. It helped a lot that we had that console in the room, because it was not only a television set but a phone, a computer, and an alarm clock. Once we found out what our Personal I.D.s were—any ten-letter word or phrase we chose; I picked "Nyla my love"—we could unlock its memories and skills, and patiently it taught us most of what we needed to know. From the menus it offered we could find the answer to almost any question, even to some we had not thought to ask. It told us, for instance, that our room and board wasn't exactly free. We had been given a credit to draw

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

on, but sooner or later we would have to pay it back or starve. How could we pay it back? Well, there were jobs in the hotel if we wanted to get a head start—making beds, cleaning out rooms on the floors not yet finished, serving food, moving furniture. Then when we were released from quarantine there were a thousand projects that needed workers, all over the continent, even all over the world—a whole technological infrastructure needed to be built. The volunteer colonists who had preceded us had done a lot, but there just were not enough of them to do the job.

Nor could I see where I was going to be of much help. What they needed was pipefitters, construction workers, motor mechanics, electricians—people with the skills to build and fix. There weren't any openings for U.S. Senators. There weren't very many for quantum physicists, either, which seemed to comprise a large fraction of us Peety-Deepies. The ones that were most useful, I thought, would be the cats—the people who were out of their own time—mostly the twenty-two-year-olds of the invading army, of whom hundreds were in our hotel and thousands more scattered around the other temporary quarters in the city.

One of the things the comset in our room would do for us, once we learned how to ask, was to locate all the other Paratemporally Displaced Persons. The master list was purely alphabetical, and that was hopeless—there were nineteen Stephen Hawkings alone, not to mention nine Dominic DeSotas. (Fortunately only four of us were still in the city, the others having completed their quarantine and reassignment and gone on somewhere else.) But there was also a list re-ordered by time of origin. There were nearly sixty from my own time. . . .

But none of them was Nyla Christophe Bowquist.

When we went down for our morning blood-letting on the third day Nicky was nervous. It was an occasion for some nervousness, in a way, because it was important to us to be healthy. Heaven knows, we *seemed* healthy. We had arrived from our various paratimes positively reeking of germs and viruses and nastiness of every kind, but our hosts did not tolerate disease. Smallpox, tuberculosis, cancer, and the common cold no longer existed in their worlds, nor did flu or veneral disease or even the caries of tooth decay. They didn't want them brought in, and so they had given us any number of shots while we were still unconscious, checked the results with a drop of our blood twice a day. What was important about it was that clean blood meant privileges. If we were still clean today we could switch from the backbreaking labor of shifting furniture to the more refined tasks of serving food. If we stayed clean through the morrow we would even be permitted to go out into the street!—at least as far as the other hotels on the block, so that we could look for lost friends from our own time, if not actually to cross over and breathe the same air as the natives at their goings-on in the park.

Still, that wasn't enough to make anybody really nervous, and when we'd each given our drop for the morning I asked him what he was worrying about. "The future, Dom," he said indignantly. "My future. This is a fresh start

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

I've got and I want to make something of it—only—only there doesn't seem to be much need for mortgage brokers in this Eden."

"Or for Senators," I said. He wasn't listening.

"There's banking, I guess," he said, leading the way as we threaded through the stacks of furnishings in the Palm Court. "I didn't see anything like that listed, but it stands to reason—only this damn arithmetic drives me crazy." He was doing better than I was, at that; binary numbers scared me so much I hadn't even begun to try to understand them, as long as our comset was willing to translate into decimal for us uneducated ones.

I guess what I had said had slowly been percolating through his fog of concentration, because he blinked at me and said, "Oh, yeah. You, too. Well, I don't know, Dom, what did you do before you were a Senator?"

I laughed. "I was a lawyer."

"Aw," he said sympathetically. "They don't have much of that around here, either, do they?" He stopped and nodded to the foreman of our work detail. "Reporting in, Chuck," he said. "What have you got for us to do this morning?"

"Plenty," Chuck said tersely. He was a black man, still wearing the uniform with the lieutenant's bars on it; he had been a tank commander in the invasion army and thus my enemy, although that didn't seem to matter much any more. What made the difference for us was that he had arrived twenty-four hours before us, so he was a foreman and we were tote-and-carry labor. "There's seventy-five new ones coming in this afternoon, so the ninth floor needs to be cleaned out. Get on it, you two."

By then I wasn't surprised any more to be given orders by someone who was a Peety-Deepy, just like us. That was about all we saw. Even the woman who took the blood from our fingertips was a cat—well, of course we were all cats, because this planet had been empty of human beings entirely five years earlier. But there were cats and there were cats, and the original colonists stayed out of the quarantine hotels. Now and then we'd see one, complete with face mask and coveralls, coming in to pick up the blood samples or hand out orders. They didn't linger.

So what I knew about the original colonists was scanty, mostly from what we could glean from the comset. The original settlers didn't come from a single paratime. They were from a whole congeries of them, eighteen or twenty different worlds. The way in which they were most different from us was only in that they had learned of the existence of, and managed to establish communication with, each other nearly twenty-five years earlier.

It hadn't all been gravy for them. They'd had some terrible times with "ballistic recoil" before they learned how to minimize it, mostly by limiting their connection to communications channels, with only carefully measured and controlled portals allowing them to, for instance, start to colonize the empty worlds.

But what rewards there were! They had twenty worlds, not one, working to solve the problems of paratime. They

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

had twenty times as many people doing research; and, besides, they had the great asset of being able to "peep" any number of other worlds.

They had, in short, a research and development complex that moved a hundred times faster than our own. They learned everything that anyone else knew. Computer technology from one world, space satellites from another, nuclear fusion from a third, genetic engineering, wizardly chemistry, marvelous medicine,—you name it. They had it.

I had plenty of time to think about all that, all the time Nicky and I were swamping out the ninth floor, because Nicky wasn't talkative. He was still fretting away at his private worries, whatever they were. It was only when we'd dumped the last drawer-full of rotting shirts and collars into the last cracked and disintegrating pigskin valise and dragged them to the one working elevator that he seemed to come out of it. Out of nowhere, he said, "It isn't so bad here, Dom, is it?"

"That's what we don't know yet," I said, starting down the stairs to dinner.

He followed, shaking his head. "It's tough on us," he said, "because we didn't have anything to say about it. But the original colonists came here voluntarily, and I think they had the right idea. A whole new planet, Dom! Gosh, I kind of like the idea myself. I mean, we don't even have to explore it, or anything—we *know* where everything is."

I paused on the landing for him to catch up. I was breathing hard; nine flights of stairs are more than I like to face. "What do you mean, we know?"

"It's the same planet as our own, don't you see? All the resources have been mapped. If your people located an oilfield in Alaska, or the Brits of my time found it in Arabia—it's still there in this world! Every resource is waiting for us. And clean lakes, clean rivers, uncut forests, clean air—gee whiz, Dom, doesn't it excite you?"

"I'm more interested in what we're going to get for dinner," I said.

"Aw, Dom! You don't mean that."

I said patiently, "I sort of mean that, because I don't want to think too hard about the future, Nicky. I don't like the idea of being trapped here forever. I wish I could go home."

He looked thoughtful, but he didn't say anything more just then—neither of us did, because we still had six flights of stairs to descend. Only when we'd reached the ground floor and were standing in the line outside the restaurant, he turned around and looked at me. "Dom?" he asked. "Did you ever hear anyone say that we positively couldn't ever get home again?"

"Well, sure," I said, annoyed. "What do you think this is all about? Once they get us all settled they're closing the portal. That's the whole point, to seal us off so we can't mess things up with ballistic recoil. So we're stuck here, right? Or do you think that sooner or later we can build our own portals?"

He shook his head. "No, that's not going to happen. They'll be peeping us all the time. They wouldn't let us do that."

"Then don't talk silly," I snapped. No excuse. I was tired and irritable.

But so was Nicky. "Who the hell are you to tell me I'm silly, DeSota?" he flared. "Maybe you're a big man when

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

you're home, but here you're just another darned Deepy!''

Of course, he was right. Bad habits persist. I had started out thinking of this other self of mine as a wimp. If I diagnosed my feelings toward Nicky carefully enough they would turn out to be at best tolerance, more accurately contempt.

He didn't deserve that. The contempt didn't belong to him in the first place; what I found contemptible in him was a reflection of the worser side of me. The side I didn't like to think about. The side that kept Nyla Bowquist in a sneaky, sleazy affair because I didn't have the courage to make it right—and that kept its options open, too, so that the other Nylas looked really tempting to me. Because he *was* me, good parts and bad. Wearing the shorts and shirts of this new Eden, identical to my own, with that cheap, flashy sports suit now no more than ashes in some incinerator, he looked more like me than ever. And what was inside was the same.

''Nicky,'' I said when we were seated at a table, ''I'm sorry.''

He flashed a smile. ''No harm done, Dom.''

''It's just that what we're up against scares me,'' I apologized.

He said firmly, ''What we're up against isn't a bunch of supermen, Dom. They're people exactly like ourselves. They *know* more, because they've swiped knowledge from all over, but they aren't *smarter*. It's August, 1983, in this world the same as yours and mine. They aren't from the future. They're us.''

I thought that over. ''Well, you're right,'' I said. ''Is that what you meant before? That all we have to do is catch up, and then we can do what we please, won't have to get their permission?''

His face fell. ''Not exactly,'' he muttered. He didn't explain what he really did mean, and I didn't press the point.

As I learned later—*much* later—that was a mistake.

When I first got elected to the Senate I had to learn a whole new life in no time at all. There were a lot of privileges I had to learn how to use—the Senatorial bell-ring that brought an elevator to me at once, no matter how many other people were waiting on some other floor; the right to the little subway that took us from our offices to the Capital; franking mail; the facilities of the gym and sauna reserved for Senators only. I also had to learn the less agreeable things, like never appearing in public again without a fresh shave, and responding to every greeting from a passer-by, because you never knew who might be a constituent. With all that, for the first couple of weeks I hardly remembered that I'd had a life in Chicago before that at all.

It was the same here—almost. I had so much to learn that I almost forgot the world I had left behind. I forgot the farm bill. I forgot the war that had been raging when I was kidnaped. I forgot Marilyn, even—well, I'd had plenty of practice at forgetting my wife, for some time.

I didn't forget Nyla.

The more surely it seemed that I would never see her again, the more certain I was that I had lost something very important to me. All that Nicky said about this world was true. I could easily imagine that, once the transition period was over, I could build quite a

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

good life for myself in this new Eden. Could do productive things, meet a handsome woman, marry her, have kids, be happy. . . . But whatever my life might be without Nyla, it would be only second best.

That feeling did not go away.

By the fourth day we were certified reasonably clean, which meant privileges. For one, both Nicky and I were reassigned to food-handling instead of shifting garbage—a big step upward. For another, we were allowed outside!

To be sure, we couldn't wander at random, and we had to take measures to avoid contaminating Eden's pure air with our still potentially disgusting breath. Nicky and I lined up for ID badges, coveralls, and micropore masks. He went one way. I went another.

What I had in mind was to look up some friends in one of the other hotels. The comset had told me that the Dom DeSota who was a physicist was located just cat-a-corner across the square, in another of the abandoned hotels that had become cathouses.

It had rained hard the day before, while we were cooped up. Now the air was cooler and dryer, and the tall trees that stretched all up along the edge of the park were bending in the breeze. There were plenty of people in the streets, strolling or hurrying from one place to another. A few of them were faceless, like myself; the ones who were not gave us masked ones a wide berth. I didn't mind. Just being out of the hotel gave my spirits a lift. I wished that Nyla were there with me, walking hand in hand along the streets of this wondrous new place, but even without her I was cheerful. By the time I entered the lobby of the Pierre I was almost beaming, and the first face I saw was a familiar one. He was sitting on the counter of the old registration desk, talking irritably into an old two-piece telephone. "Which one are you?" I asked, peeling off my face mask. He gave me a scowl.

"I'm the one you got into this trouble in the first place, schmuck," he said bitterly. So he wasn't Lavrenti Djugashvili or the scientist; he was the con-man from Time Tau.

"I'm not the one you think I am," I told him. "I'm the Senator; Nicky's my roomate, in the Plaza."

"I hope he rots there," he said. Then he put down the phone and shrugged. "Hell, I guess I don't mean that. No sense hanging onto hard feelings, right? Want a cup of coffee?"

Well, he was trying to be nice. And he had coffee! There were advantages to knowing a con-man, even here and now, I could see. So we sat and talked for a while. I told him what little there was to tell about Nicky and me. He told me more than I wanted to know about himself. He'd roomed the first night with Moe—the F.B.I. man! He saw my look and shrugged. "Like I say, no use carrying a grudge any more, is there?" But Moe had found another Moe —another identical copy of himself, and the two of them had decided to room together. More than that, they'd found out there was still a third one, and they'd made plans to go off together when they left quarantine—maybe to sign up for construction on the new natural-gas pipeline that was going to go from Texas to somewhere in Southern California, maybe join an advance crew in one of the cities that hadn't been refurbished

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

yet, maybe get into dam building down in Alabama, the place they called Muscle Shoals. There were always plenty of jobs for big guys with muscle. And did I know that Nyla was in the hotel?

Sudden rush of hope and shock. But, of course, the Nyla he was talking about wasn't my Nyla. It was the F.B.I. woman.

I drank the rest of the coffee without tasting it, listened to the rest of Larry Douglas's gossip without hearing it. What was on my mind was a moral question, and it filled my mind. The Nyla I loved was hopelessly out of reach.

Was I willing to settle for another Nyla?

I didn't even consider the question of whether that other Nyla, that hardbitten policewoman, would settle for me. That didn't really matter. The answer I was looking for was in my head, not hers. Who was it I loved? Was it the physical, corporeal female human being with whose body my body found so much pleasure? Was it the traits and graces of the Nyla who played so beautifully on the violin and behaved so warmly, kindly in all the intercourse of the world? Would I have loved Nyla Bowquist less if she had been less able to show me the difference between Brahms and Beethoven—or less used to the glamor and excitement of the elite world we both moved in? Would I have loved her, in short, if she hadn't been famous?

Or—getting rapidly down to basics, the kind of question that never has an answer that makes sense—what did I mean by "love," anyway?

When you get into that kind of navel-gazing soul-searching it isn't too easy to keep track of what is happening in the real world. It wasn't surprising when Larry Douglas's prattle slowed down, then stopped.

I came to. He was gazing at me disagreeably. "Sorry," I said. "I was thinking."

He sniffed. "Mind telling me what it was you came here for?" he asked.

"I was looking for Dominic DeSota —the other one—the scientist."

"Oh, *them*. There's a bunch of them that spend their time talking about paratime and all that stuff—there's a couple of me there, too. You'll find them in the bar, probably."

I did. It was as he described. There were ten or eleven people in the bar, nursing beers and talking animatedly. Two of them were Larry Douglases, four were Stephen Hawkings in one state of health or another, two were the John Gribbins of whom I had met some examples at Floyd Bennett Field. They didn't even look around when I came in. They were, as the con-man had said, comparing notes.

I went behind the bar and picked out a can of beer for myself, half listening to them, mostly thinking about my own problems. It wasn't hard to think, because their conversation didn't disturb me a bit. I didn't understand a word of it. "We started with oltron fission," one of them would say, and another would cut in, "Hang on a minute. What's an oltron?" And the first would say something like, "Uh, it's charged, it's light, it has a point-five variance—" and the other would say, "Variance?" And then they would start drawing particle-reaction diagrams until one of them would

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

say, "Oh, you mean a Neumann body! Right. And it splits into an aleph-A and a gimmel, sure—" And they would be off again. I let it all wash over me until the Dominic DeSota turned around to reach for his beer and saw me there.

"Oh, hi, Dom," he said. "Back already? Listen, Gribbin here says they used vanadium targets in the accelerator and got nearly twice the brilliance. What do you think of that?"

I grinned at him. "Not much," I confessed. "I'm the one who's a Senator when he's back home, Dom. The one you were with in Washington when we got snatched."

"Oh, that one," he said, amused. "Well, I'm not that Dom either. He's off checking up on his wife."

I winced. "Well, tell him I was looking for him," I said, turning away, wishing I'd been as lucky as he. If only they'd caught my Nyla up in the sweep, instead of the No-Thumbs woman . . . and then . . . I stopped, swallowing hard.

"Hey," I said. "They didn't snatch his wife, did they? She was in her own time, and she wasn't working on paratime!"

"No, of course not," said the other Dom. He gave me a puzzled look. "He applied for her to join him, that's all. He just went to see when she's coming in."

"Applied. . . . To join. . . . You mean. . . ."

And he did mean, just what I thought. That was policy. The kidnapers weren't inhuman. They were willing to let us bring our families over, provided our families were willing to come.

All I had to do was apply.

Forty minutes later I was down in the old Biltmore Hotel, waiting my turn to—to, I guess the word is, propose. I wasn't alone. There were fifty men in line with me on the same errand. We didn't talk much, because each one of us was busy rehearsing the speech we were about to make. When I felt a tap on my shoulder I flinched.

But it was only Nicky. "You, too, Dom?" he grinned. "I've just finished. Now if Greta will only say yes—"

Suddenly we were the center of attention, as the men before and behind me in the line turned to hear what the man who had already done it had to say. "She didn't answer?" I asked.

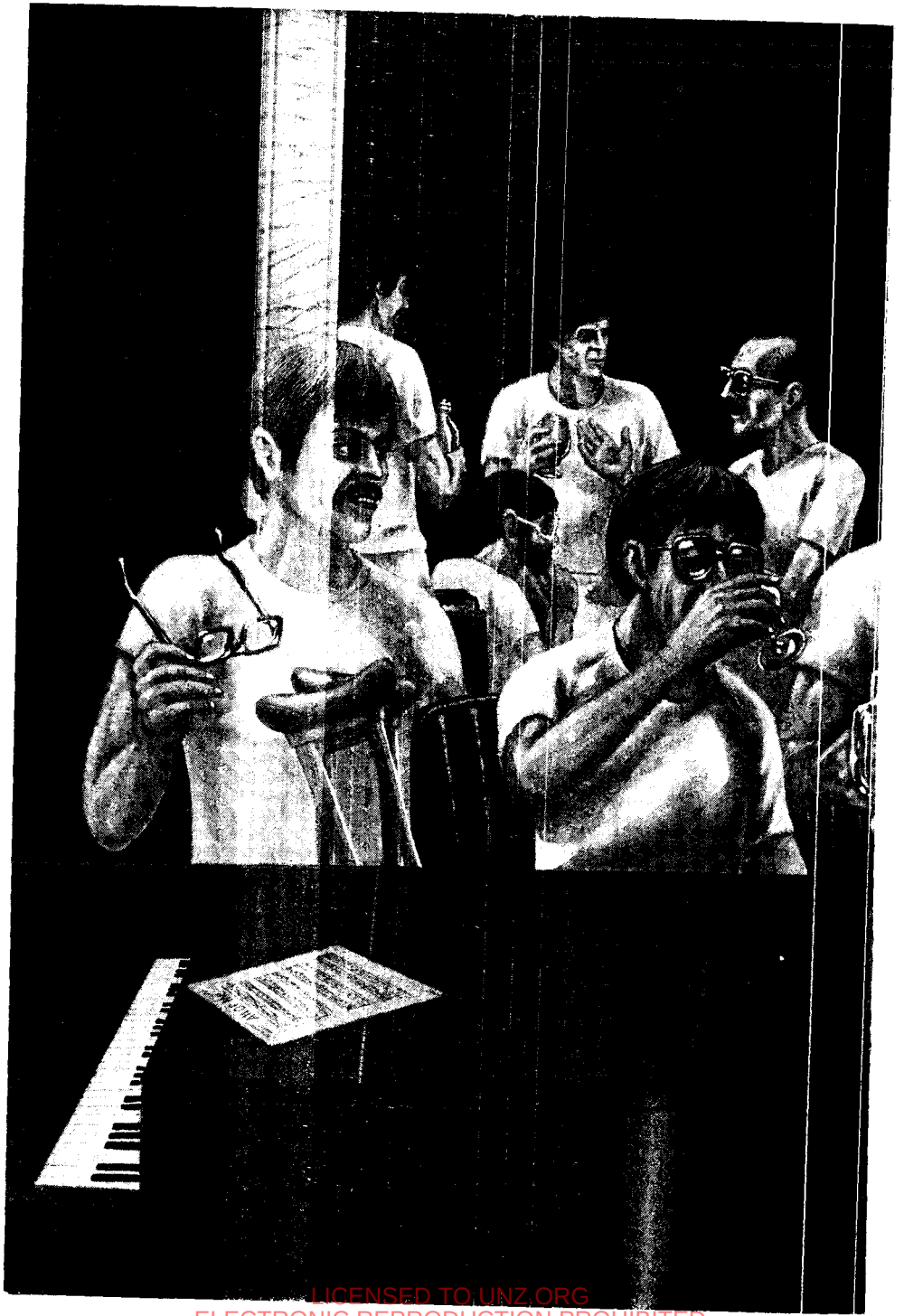
"Answer? No! You don't talk to her directly," he explained. "They don't have enough channels for that, I guess. What you do, you go into a room and they sort of film you—I don't suppose it's really film—anyway, you say what you have to say. Then they locate your wife, or whatever, and transmit it to her. What did you call those things? Holograms? It will be a sort of hologram image of you, and you can talk for one minute. Then it's up to her—"

Then it would be up to her.

What do you say to a woman to make her give up a world that loves her for the sake of chancy adventures in exile? All the time I was inching ahead in the line, all the time I was giving information about Nyla Bowquist to the attendant who would have to locate her, I invented reasons. Not reasons. Bribes. Airy-fairy promises of what our life would be like. . . . As if I knew any of that!

And when at last I was in front ot the lens, with the bright lights glaring into

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

my eyes, I abandoned the reasons and the bribes. All I could find to say was, "Nyla, my darling, I love you. Please come here and marry me."

By Saturday we were germ-free and ready to start our new lives. By Saturday the woman at the Biltmore desk was already tired of seeing both Nicky and me. There were only a limited number of channels, she explained, and very heavy demands on all of them. No, she didn't know whether Nyla had even received my message yet. Yes, she would be told everything she needed to know about what this world was like and how to get here. No, she couldn't even guess how long it would take—sometimes less than a day, but some people hadn't had a response even three weeks later. . . .

I didn't want to wait three weeks. I didn't want to be lonely that long . . . especially when it might happen that all I would get at the end of the three weeks was the knowledge that I would be lonely forever.

Meanwhile I had to fill my time one way or another. Nicky had the same problem, but he didn't seem to have the same trouble doing it. When he wasn't working he was exploring; when he wasn't exploring he was hunched over the data-machine terminal in our room, trying to learn as much as he could. About the third time I came to ask him how many ooties went into an oddy-poot he said, "Really, Dom, how are you going to get along here if you can't even make change?"

"It's so confusing, Nicky. All those ones and zeroes."

"It's binary arithmetic," he corrected me. "One equals one. One-oh equals two. One-one equals three—" And he drew me a column of figures:

1	1
10	2
11	3
100	4
101	5

"Sure, Nicky, sure," I groused, "but what do you do when you get up to those ten or twelve digit numbers? How do you even say the suckers?"

He said seriously, "What you do, Dom, is learn the pronouncing codes."

"Why should I? No, no, I know," I said, to head him off, "the reason I should learn is that I'm stuck here, and when in Rome you learn to use Roman numbers, right? Only it's dumb! Maybe there's some little saving in time or something; but it must have cost them millions to switch over from decimal to binary."

He laughed. "You know what it cost them? Bear in mind, they've put all their data into electronic storage. So they pushed a button somewhere and the machines did a global search-and-replace. All at once. All over the world. All over all the worlds that were involved; and from then on it was standard."

I gazed at him. "That's computer talk," I said. "You've learned a lot since you got out of your own time."

"I didn't have the choice, Dom," he said, "and sooner or later you're going to realize that neither do you. Here. I'll get you started." And he punched out some commands on the machine and got up. "Start by learning how to count," he ordered, and left me to it.

Of course, he was right.

So I got serious. I took my mind off me and my problems, I even took it off Nyla, and I tried to concentrate. What

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Nicky had called up for me was an old document called *On Binary Digits and Human Habits*, and it told me all I wanted to know about binary arithmetic and the way to write it and say it.

The writing conventions were easy enough. The custom was to write numbers in binary groups of six digits, with a hyphen in the middle, 000-000. When there were more than six digits they used commas, just as we used to for thousands and millions: 000-000,000-000. I laboriously converted the present year into binary, and 1983 came out as:

11-110,111-111

It looked pretty dumb to me.

Then, reading on, I discovered that they pronounced each group of six according to some cockamamey rule that looked ridiculous at first, but got easy after I'd studied the table for a while. You pronounced each three-digit group slightly differently, according to whether it was before or after the hyphen, but that was only to make saying the words easier:

Binary quantity	Pronunciation when in first group	Pronunciation when alone or in second group
000	ohly	pohl
001	ooty	poot
010	ahtah	pahtah
011	oddy	pod
100	too	too
101	totter	tot
110	dye	dye
111	teeter	tee

So numbers like "ten"—i.e., 1-010—became "ooty-pahtah" and "fifty," or 110-010, became "dye-pah-tah," and when Nicky came back into the room I was able to tell him, "Four months or so from now, on New Year's Eve, I am going to wish you a Happy New Oddy-dye, teeter-tee."

"Well done, Dom," he grinned, "but that's *this* year. *Next* year will be 1984, and that's oddy-tee, ohly-pohl."

I groaned. "Hellfire. I don't think I'll ever learn all this stuff."

He said cheerfully, "Sure you will, Dom. After all, as I said, you don't have any choice."

I couldn't spend all my time mooning over Nyla, or even learning. There were decisions to be made. Not just decisions; we had to go to work. We could not stay in the Plaza forever, because the quarantine quarters had to receive thousands of new cats, arriving every day. Nor could we go on half-heartedly working at dishwasher and busboy jobs, because there were no free rides in Eden. There couldn't be. Before the mass transfers there had been hardly fifty thousand venturesome pioneers on the whole planet, malcontents or heroes. Now nearly two hundred thousand cats had already been transported to strain the resources available, and the number would more than double before the

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

transfers were complete. Every one of us needed food, housing, all the million little gadgets and services and conveniences that made up civilized life. Food most of all. I had never been even a backyard gardener, but my first job-hunting trip was up to the north end of the park, where crews were busy harvesting lumber, pulling stumps, plowing fields, sowing winter crops. My second was down to the Brooklyn Bridge, where there were engineers testing the strength of the cables and supports, and forty times as many people chipping rust and slapping on paint to get the old bridge ready for service again. My third and fourth and fifth were all over the city, where the jobs were repairing water mains and power lines, or checking out apartment buildings to see if any could be made livable for the winter, or collecting scrap that would (somehow) be transported to the steel mills that would (somehow) be put back in operation to create new plows, and cars, and I-beams out of the discards of the old times, pending the day when the Mesabi iron mines could (somehow) be started up again for ore—Oh, there were jobs, all right! There were more jobs than there were people. It was just that none of them seemed to be for a man whose basic skills were making speeches, running fund-raisers, and conniving to trade a pilot teaching program here for a slum-clearance project somewhere else.

"It'll be fine," Nicky encouraged. "Gosh! They need *everything*, Dom, and sooner or later they'll need government people too. You'll make out, and so will I. When Greta comes—" He clasped his hands with a seraphic smile. "A home! A wife! A family—a big house, with a half-acre of ground, surrounded by tall hedges so we can go skinny-dipping any time—"

"I've got an interview," I said, and left him with his dreams. I wasn't lying. The "interview" was with the woman at the Biltmore and she recognized me at once. "Dominic DeSota, right? Just a minute." And she huddled over her comset, studying the screen.

And then her expression clouded.

I could feel what was coming even before she found the words she was looking for. "I'm really, really sorry," she began, and didn't have to end.

I had a smile all ready, saved up for some time when I would need a smile a lot. When I put it on, wonders, it worked. "Those are the breaks of the game," I grinned at her. "Well, honey? You doing anything special tonight?"

The smile might have fooled her, but I could see that the tone of voice was a dead giveaway. She was a good person. She had probably already had to tell five hundred of us Peety-Deepies that their nearest and dearest couldn't really see their way clear to a new life in a new place. "A lot of people get really frightened about paratime travel," she said.

The smile was beginning to ache, but I held onto it and made an effort at conversation. "Who doesn't?" I asked, and managed a shrug. "Nyla's as brave as anybody, but this kind of thing is an awful lot to ask. I don't blame her. If the positions were reversed I'd probably say no thanks, too—anyway, I'd have to think it over pretty hard—" I trailed off, because the woman was looking puzzled.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"What did you call her?"

"Nyla. Nyla Bowquist. Is something wrong?"

"Oh, *hell,*" she said, busy with her keyboard again. "You're *that* Dominic DeSota. I just can't keep you straight —same room and everything; it was a woman named Greta who said no. Yours—" She frowned at the screen, tapped out a command for a double check, and then looked up at me with a smile of heavenly gold. "Your request was for a Nyla Christophe Bowquist, and she accepted. She's already at Floyd Bennett for preliminary disinfection. She should be here in the hotel by tomorrow morning."

Staff Sergeant Nyla Sambok wasn't a staff sergeant any more, because nobody was. The American Army had been disbanded, along with the Soviet, by the League of Nations' peacekeeping forces. She still wore her uniform, though, dirty and wrinkled though it was. She didn't have anything else. As she waited in the Indianapolis terminal for the train home, the ex-captain on the bench next to her was listening to a little radio. It was repeating the terms of the one and only message her world had received to explain what had happened. *We have removed all of your temporally displaced persons and your researchers in paratime physics, as well as inducing radioactivity to make your research centers unusable. No further research in this area is permitted.* Nyla Sambok didn't need to hear it again. She only wished it had come earlier. The submarine-launched cruise missiles the Americans had not known the Soviets owned had been only marginally effective. Still, they had taken out Miami, Richmond, Boston, San Francisco, and Seattle. The bomber-launched smart bombs the Russians had not known the Americans owned had done the same for Leningrad, Kiev, Tbilisi, Odessa, and Bucharest. It was the prevailing opinion that the worst was over, since the exchanges appeared to be under the limit for a nuclear winter to follow. It would be months, though, before anyone *knew*.

Yr 11-110 111-111, mo 1-010, da 1-100

Hr 1-000, mn1-111, Nicky DeSota

Mary Wodczek, the pilot of the blimp, came back to wake me up when we were somewhere over Scranton, or anyway where Scranton used to be. "Wakey-wakey," she called through the door. "New York in about an hour."

I called out thanks and crawled out of the crew bunk, shivering. They kept the living spaces in the blimp at what was supposed to be a bearable temperature, but it wasn't anything like Palm Springs. While I was getting up nerve enough for a shower Mary called again, to make sure I was awake, "You know we're going to be airborne again before sundown, don't you?"

"Go fly your blimp," I advised through the door. I heard her friendly laugh, and then she was gone. Before my nerve failed me I stumbled into the little shower. It wasn't as cold as I had feared. It was warmer than the air, anyway, but all the same I was glad to get out of it and into some clothes, so I could get started on this day.

It was a holiday for the collective,

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

which was why I was able to take the time—that, and working a weekend or two to build up some reserve. We might call it the ooty-too of ooty-pahtah, but we still celebrated the twelfth of October as Columbus Day—anyway, most of us did. You couldn't expect the displaced Arab and African date-growers who farmed outside our crop areas to get all mellow about the discovery of America. Columbus Day was just one more American eccentricity to them; the Ethiope who ran our pumps had asked me when we put the tree up to decorate for Santa Claus.

Most of us were U.S. born, though, and nearly all of us were cats. I mean the involuntary kind of cats. The farm community had been set up originally by the restless colonists from the twenty-era congeries, but they weren't that fond of farming. As we Peety-Deepies moved in, they moved out, to do what they considered more interesting things in this new world.

That suited me well enough. We were all equal together in the Desert Agricultural Consort. That's not to say that any of them knew anything about tau-America—*my* America. I hadn't found a single person who had ever heard of the Moral Might Movement. They didn't have rich Arabs buying up everything in sight—the only Arabs were part of the collective, just like me. They didn't have 35-year-old drinking laws, or prohibition of abortion or contraception, and there wasn't any rule about how much of your skin you had to keep covered up. (Except the natural law, of course. No sane person wanted to expose too much skin to the California desert sun.)

What I had first called this new world to myself was Eden. The name was fair enough. And, although I wouldn't have guessed I'd like farming any better than the early colonists we replaced, it beat the dickens out of calculating mortgage rates in Chicago.

What made it even better, of course, was that my special skills kept me away from stoop labor, except now and then when a crop had to get in *right then*. Learning the binary arithmetic had been a bit of a strain, but once that was out of the way I took over all the financial problems for the collective. I was a solid asset to the Consort, and they treated me that way. They were sorry to see me take off for New York.

Not many people had ever been sorry to see me leave before.

So, as the blimp swayed gently down toward the old New Jersey swamps and I counted over my crates of avocados and lettuce, I was actually looking forward to going back home. My real home. The one around Palm Springs.

It was very nearly what I had dreamed of as a kid. When I was young I was very religious—I didn't have much choice, did I? The Moral Might Movement was getting itself together, especially in the suburbs of Chicago. I wanted to be Good. Mostly what I wanted was to avoid getting crisped for eternity in the fiery flames of Hell, where (so Reverend Manicote assured me every Sunday) I was almost certainly going to go if I drank, missed Sunday school, or went skinny-dipping. He also mentioned Heaven now and then. That was sort of like Tahiti in my six-year-old mind; I knew it was there, but didn't see much chance of ever visiting it in

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

person—at least, not without a really good lawyer to find a loophole in the rules. I mean, how could God possibly forgive my weighty six-year-old burden of sin? I'd told lies. I'd stolen nickels from my mother's purse. I'd shown disrespect to my elders—oh, I was a bad one, all right! But I did daydream sometimes about what Heaven would be like if I ever found a way there. And what I dreamed was close enough to the Desert Agricultural Consort—even to the fact that, as Reverend Manicote had assured us, there was no marrying or giving in marriage in Heaven. That was true enough for me in California. There were women there—more than forty per cent of the population was female—but they had mostly come to join husbands or lovers, and there wasn't much of a pool left over for single men like me.

But that was what I had wangled the New York trip to do something about.

We floated down to the Great Meadow, where winchmen were waiting to grab our cables, and I peered out the cabin window. New York City hadn't changed much. There was no real reason it should have—it was only about six weeks since I'd headed out for my new job in California—but, my goodness, it seemed a lot longer.

As soon as we were secure I stepped out into a rainy, chilly New York October day, and got my tennis shoes full of mud on the first step.

Herby Madigan was waiting for me on the pad, trying to peer past me to see what was in the cargo hold. He grabbed the manifest out of my hand before he even said hello and ran his eye down the list. "Tomatos?" he asked indignantly. "What'd you bring us tomatos for? We've still got plenty from Jersey and the Island."

"In a couple of weeks you won't have," I told him, "and then you'll be begging us. Anyway, there's dates and avocados—" his eyes lit up—"and I've put in some cases of oranges and coconuts, just to show."

"Oranges!" he breathed.

"We can't deliver much quantity, I'm afraid," I said, "because it'll be a while before the groves are really producing again. Can we get out of the rain while we talk?"

We didn't quite make it on the first try, because one of the air-traffic people stopped me to ask if I'd seen any signs of ballistic recoil on the way from California. He looked pleased when I told him I hadn't, less pleased when I explained that I'd been asleep about half the time and busy with paperwork most of the rest. Still, he was content to tell me that nobody had experienced much of the recoil in the last month or so; evidently the resonances were damping down on schedule.

So then we were allowed to go into Herby's office, a brightly lit, messy cubicle in one of the bubble-structures in the park, and haggled over prices for half and hour. I took my wet shoes off and let my socks dry while we talked. He had some real coffee and gave me a cup, and I wondered if we could grow the stuff. Decided against it. People from the Consort had already gone exploring down into Baja and other parts of Mexico. Some day we might want to hive off a colony to grow coffee and maybe bananas and papaya there, but they were too far from Palm Springs to

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

be good ideas right now. Anyway, I had plans enough for the next year. "We'll have fresh spinach and grapes for you in about a month," I told Herby, "and Crenshaw melons around Christmas. We're short of labor, though. Do you know if there are likely to be any real farm workers coming through?"

"Nobody's coming through any more," he said absently, thinking about Crenshaw melons for Christmas. "They've closed all the portals, except for a couple of signal-only peeping stations. You might pick up some workers anyway; there's still a few hundred physicists and soldiers and so on waiting for assignment in the hotels."

I sighed. Retraining physicists and soldiers already took a lot of time away from trying to revive old orchards and planting new crops. "If you've got twenty volunteers," I said, "we can take them back tonight—families would be best. Or single women?"

He laughed. I expected him to: that was a joke. When we'd finished haggling over prices and contracts for future delivery he poured another cup of coffee for us both and leaned back, gazing at me. "Dominic?" he said. "How would you like to come back and work for me in procuring?"

"No, thanks."

He persisted. "You'd have a hell of a lot better job. I'd match anything they pay, and you'd be in the city. We've got power and water in half the West Side now. It's going to be really nice here."

"After you get it cleaned up," I grinned.

"Sure! It's happening. Five years from now—"

"Five years from now," I told him, "we'll be cleaning up San Diego. Now, there's a pretty place for a city! Not to mention the climate."

He said thoughtfully, "You know, I wouldn't mind living in California some time, after we get things straightened out around here. I've been thinking about Los Angeles—"

"Los Angeles! Who would want to revive Los Angeles?" I looked at my watch. "Nice talking to you, Herbie, but my return flight's not going to wait for me and I've got some things I want to do here. Any chance of borrowing a pair of dry shoes somewhere? And maybe a raincoat?"

The lobby of the Plaza was cleaner than I'd left it, and emptier. Something like twenty-two thousand Peety-Deepies had come through the New York City relocation centers: only about two hundred were left in the Plaza, and some of the other hotels had already been closed down, mothballed, pending some time in the future when they would be needed again for transients and tourists.

I didn't linger. My first business was with the transient desk, where they let me borrow a terminal long enough to type in a name and get an address. I asked the man at the counter how to get to Riverside Drive, found out I could pick up a taxi in front of the hotel, and only then realized I didn't have any money to pay a taxi fare. Or anything else. "Can I pay with my California money card?" I asked, and he tried not to laugh.

"You'll need cash," he told me. "Out in the lobby there's a cash dis-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

penser—if you've got your card it'll probably take care of you."

It did. It took the help of two bystanders for me to figure out how to make it work, but then it spat out twenty-four sixteen-dollar bills, k-chew, k-chew, k-chew, and I scuttled away. Hick in the big town! Some things didn't change.

In the taxi I turned the money over curiously. It was really a nuisance to use cards for little things, or even for such bigger things as dealing with the independent communities in Palo Alto and Santa Barbara or playing poker on Saturday nights. They were interesting colors: greeny-gold and black on one side, gold and scarlet on the other. The numbers were in binary, of course, and they weren't made out of the kind of banknote paper I'd seen all my life—all my *other* life—but of something that had a feel almost like silk—and, I discovered when I risked a corner of one, was distinctly harder than paper to tear. Altogether it was neat-looking money. The picture of Andrew Jackson on one side and the White House on the other weren't steel engravings but holograms. As I turned the bills in my hands the perspective shifted slightly, and haloes of other colors appeared around the pictures, red, white and blue behind Jackson, a full-spectrum rainbow over the White House. The name of the printer was on the notes, an outfit in Philadelphia—first I knew anything was going on in Philadelphia—and I made a note, as best I could while the taxi jolted up the potholes and cracked cement of Broadway. Next council meeting I would take up the question of whether we wanted to print some of these for ourselves.

Then we were at Riverside Drive; I paid off the taxi driver and looked around. The Hudson ran clear and sweet. There were big trees growing over on the cliffs at the Jersey side, and I couldn't see the big George Washington Bridge—hadn't been built yet, I supposed, when all building stopped. But the apartment house I was going to was in good shape. There was glass in the windows. The hall floors were clean tile. And while I was climbing the stairs to the sixth floor I heard the whirr of motors and realized that the climb wasn't necessary—they'd even got the elevators running. And when I got to Apartment 6-C and knocked on the door it opened right away, only the person who looked out at me wasn't who I expected at all. It was the Senator. "Nicky!" he cried. "Hey, Nyla! It's Nicky DeSota. Come and say hello!"

Then she appeared, looking pretty and happy and very much like the person I was looking for—as much as I looked like the Senator—almost as much, because there was that very visible difference when she shook my hand. And nothing would do but that I come in, and have some more of that real coffee and talk for a while about what I was doing and what they were doing and how, really, we were pretty well off where we were, the worlds we'd left behind be darned. It was a pity she was the wrong one.

But they were able to tell me where the right one was, and twenty minutes later I was on my way. To the old Metropolitan Museum of Art. No more than two minutes from where I'd landed in the blimp in the first place.

* * *

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

The Senator and his Nyla had been surprised to see me. The Nyla without thumbs was more than that. She was flabbergasted, and a little suspicious. "All that stuff back home," she said at once, "is over. If you're sore, you're sore, and I wouldn't blame you. But I'm not apologizing, either."

"I'm not sore," I said. "I just want to take you to dinner—maybe across the park, in that restaurant with the trees around it."

"I can't afford that!"

"I can," I said. "Mind if we walk? I'd like to keep an eye on how they're loading the blimp."

So we walked, and I showed her how they were loading tractor parts and case after case of data-cards for our memory stores in exchange for the produce we sold; and she told me about her work at the Museum. It wasn't skilled work, she said at once, a little belligerently, but it was *good* work. "Fortunately," she said, "they were building a new wing, so a lot of the best stuff was stored carefully and it's in pretty good shape. But the stuff that was on public view! Especially the paintings! I can't restore them, none of us really can very well, but we're spraying them to kill the mold, and drying them, and trying to save all the little flakes of paint that fell off onto the floor—I think some day somebody will be able to put a lot of them together."

"I didn't know you were interested in art," I said, steering her into the restaurant. The smells were marvelous; of course, they were right there at the market, and got their pick of the first and freshest stuff that came in.

"I guess," she said objectively, not meanly, "you didn't know much about me at all, did you? And maybe I wanted it that way. So you'd be more scared of me."

I let that pass. We got a table and ordered. We started with avocados stuffed with crabmeat; the crab came right out of the Hudson River, but the avocados were our own, no more than five hours in the city, and absolutely perfect.

"That is a good job," I said, "although I guess there isn't much of a need to get it all done right now, is there? I mean, the paintings, sure. But the other stuff—I saw that Cleopatra's needle thing as we came by. Nothing much is going to happen to it that hasn't happened already." The obelisk had been flat on the ground, and in several pieces, broken as it fell. It lasted for thousands of years in Egypt, but a few decades of New York City's freeze-and-thaw had knocked it over.

She looked up from scraping the last of the meat out of the avocado shell. "So?" she asked.

"So I wondered if you might be interested in another job. Not in your specialty, of course—there's not much in the secret police line around here. How would you like to conduct an orchestra?"

She put down her fork. "To con— An orch— Shit, Nicky, what the hell are you talking about?"

"Call me Dominic, all right?" I had forgotten she was such a potty-mouth. Probably she'd get over it, though; most of the people seemed to.

"Dominic, then. What do you mean? I've never conducted an orchestra!"

"Didn't you tell me once you wanted to play the violin?"

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"I *did* play the violin!" But she put her hands on her lap instinctively.

"You can't now, right," I nodded. "I understand that. That wouldn't stop you from leading other musicians, would it?"

"*What* other musicians?"

I grinned. "They call themselves the Palm Springs Philharmonic. Actually, they're amateurs. Not bad, though. It's part-time stuff for them; they all work on the collective."

"*What* collective?"

"I'm head financial officer for the Desert Agricultural Consort," I told her. "It's like a kibbutz, only we don't call it that because most of us aren't Jewish. We're going to have a good orchestra some day. Right now—Well, you'd have time for a couple of other jobs, at first."

"*What* couple of other jobs?"

"Well, one, teaching music to the kids. And any grownups who wanted to learn. We don't have a music teacher."

She pursed her lips. The rabbit stew had arrived and she sniffed it approvingly. "And?" she asked, dipping a spoon to taste.

"Well, the other thing isn't a job exactly. I mean, I thought you might like to marry me."

I don't think I had ever surprised her before. I'm not really sure I'd surprised very much of anybody very often before. Not even myself. She stared at me, while the rabbit stew got cold—hers did. Mine I dipped into. I was starving, and besides it was delicious.

"What about Greta What's Her Name? The stewardess?"

I shrugged. "I asked her, you know? Made my one-minute commercial? She said no." I began to grin, because it was kind of funny, when I thought about it in retrospect. "I got this dear-john holocard, you know?" And I'd taken it back to my room when the senator was out and played it, and there she was, pretty as ever. I didn't quite cry. But nearly. She said, 'You're a sweet man, Nicky, but you're nothing but trouble. I don't *need* trouble. I just want to get on with my life.' "

Nyla laughed, too. For the same reason. At the notion of my being too excitingly troublesome for anyone. "Well, you are a sweet man, Nicky," she acknowledged.

"Dominic."

"Dominic, then."

"So that's what about Greta. What about Moe?"

She gave me a startled, almsot angry look. "That ape? What the fuck do you think I am, Ni—Dominic?" Then she tasted her stew and mellowed. "Anyway," she said, "he's gone gay. He and the other two Moes—they found each other, all three of them, and they'd never been gay before, but—I guess they couldn't resist having lovers who knew all about them. I mean, you know, knew exactly what everything would feel like." She hesitated, looking at me. "Do you know what I'm saying? I mean, knowing exactly how to do, well, everything, so that—"

"I know what you mean," I said firmly. "What about it?"

"You mean what about getting married." She ate industriously for a moment, frowning. She was frowning over the idea, not the stew, which was perfect—I thought I'd try to get the recipe

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

to take back to our own cooks. She finished the last spoonful and looked around for coffee. I waved to the waiter to make it come.

"Well," she said doubtfully, "it's always nice to be asked."

"I did ask. Now what happens is, you answer."

"I know that, Dom," she said. "I'm trying. Only I'm not sure about—Well, what about me? I'm not exactly what you could call a virgin bride, you know, and no offense, uh, Dominic, but you always struck me as a pretty tight-ass type about that kind of thing."

I said, "Nyla, we've both got some kind of a past that doesn't do us a lot of credit. As you say, no offense. You were mean as a snake. I was a wimp. *Past tense,* Nyla. We didn't have to be that way—no, wait a minute," I said, as the waiter brought the coffee and the check, "I want to say this just right. Let me start over. In a way, we *did* have to be what we were, because of the world we lived in. 'Have to' might be too strong, because some of it was our fault—we took easy ways. There were better ways, even in our time. But it wasn't all our fault, and we could have been a lot better. Look at our duplicates! The Senator, and the scientist, and Nyla Bowquist. We could have been like them! And we still can be, honey."

I hadn't planned to use that word. I'd thought it, but it just slipped out without my intending it. She heard it. I could see her examining the taste of it in her mouth, a new flavor. It didn't seem to repel her. I hurried on: "The Senator's running the administration of the whole west side of this city now. Nyla's pregnant. They had to change their lives. We can change ours."

She sipped the coffee, studying me over the rim of the cup. "That's what you're talking about, isn't it, Dom? Not just marriage but kids? A little house in the country, with roses growing over the veranda and hot coffee among the flowers every morning?"

I grinned. "I can't promise the coffee, because the Consort isn't that rich yet. But the rest of it—yes. Even the roses, if you like roses."

She weakened. I could see her weakening. "Shit," she said, "I *love* roses."

"Does that mean yes or no?" I pressed.

"Well, there's no law says we can't *try* it," she said. She put down her cup and looked at me. "So, yes. Do you want to kiss your fiancee?"

"You bet I do," I grinned, and I did. It was the first time I had ever kissed her. She tasted of coffee, and rabbit stew, and herself, and it was a great combination. "So then," I said, settling back in my chair, "we'd better get a move on. You'll have to get your things, and tell the people at the Museum that you quit. Say two hours for that. That gives us about another hour or two to maybe shop for anything you think you'll need in California before the blimp takes off. We can get the captain to marry us on the way."

She had picked up her coffee cup again, and she actually spilled some of it. "Jesus, Dom," she said, looking as though she were just finding out what she was getting herself into, "you do move a greased streak when you want to. Is that legal?"

"Honey," I said, on purpose this

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

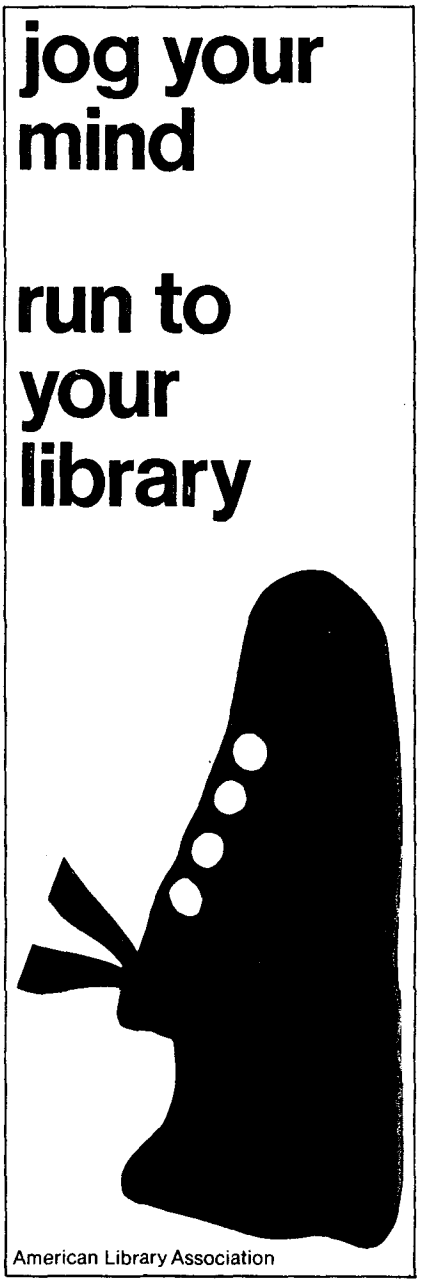
time, "it just might be that you've kind of missed the point of what's happening here. It's a *new life*. We don't have to worry about what's legal in stuff like this. There are too many different kinds of rules, back in all the places we all came from, so we just make it up as we go along. And that's exactly what's the best thing of all about it."

So a few hours later we were well and truly married, and we proved it to each other in the little crew bunks of the blimp, somewhere over New Jersey. And over Pennsylvania, and probably over Ohio, though we weren't checking geography at the time. We might have proved it again over somewhere around Indiana if Mary Wodzcek, who had said the vows for us as soon as we took off the night before, hadn't decorously knocked at the door with coffee and orange juice and toast. "I thought you might like some breakfast," she said, smiling at the newlyweds. It was a kindly thought. Kindly she disappeared again at once.

And a while after that we were sitting propped up in the narrow bed, with our arms around each other and feeling pretty good in the gentle sway of the blimp, when Nyla said, "Dominic? You know, I'm not sure I'd really go back now even if somebody offered it to me."

"Me, too," I said, nuzzling her neck.

She pressed her cheek against me absently. "That's funny, though. All the time I was working in the Museum I was just praying for a miracle. I had all these fantasies about how great it would be if I could return for a heroine's welcome, or something—But it would really



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

be the same place, wouldn't it? And this is all different and, honestly, I don't think I'd mind if we were stuck here forever."

"That's good," I said, kissing her warm, damp armpit, "although I don't guarantee that it's true. About being stuck here forever, I mean."

She pressed back, then sat up straight, looking down at me with an uncertain smile, as though she suspected there was a joke in there somewhere but hadn't located it yet. "What do you mean? They said they were closing all the portals permanently!"

"And so they have, hon," I conceded. "That might not matter. Listen, the shower here is pretty small, but I bet the two of us could fit in—"

"In a minute, boy! Tell me what you mean!"

I leaned over her to take a swig of cooling coffee from my cup. "I just mean that these big-time people are only human, hon. They aren't gods. I don't doubt they've closed all the portals, not counting some electronic peepholes, because they can't stand what would happen if ballistic recoil got out of hand."

"Well, then?"

I said. "It may not be up to them. See, they were the first to get the portal. They located maybe thirty or forty other times that either had it, or might get it pretty soon, but that's only thirty or so. How big a fraction is thirty divided by infinity, Nyla?"

"Don't pull mathematics on me, Dom!"

"It's not mathematics, it's just sense. It's October, 1983, right? Not just here. For everybody. They're not *ahead* of us. They just got lucky fifty or a hundred years ago. But it's October, 1983, for an *infinite number* of times. Not just them. Not just us. All the times, and time is a-marching on in *all* of them. Maybe right this second, in some time nobody yet has ever even peeped, somebody like me, or you, is just making the breakthrough. And maybe there are four or five others that haven't got quite that far yet but they're on the trail—by Christmas there could be a dozen times with paratime capacity—and maybe twenty-five or thirty more in January . . . and in February . . . and next year, and the year after—"

"Oh, my God," breathed Nyla.

"And some day," I finished, "there's going to be so darn many of them that there'll be thousands or millions, all breaking through at once—and do you think anybody's going to be able to hold the lid on *that?*"

"Holy sweet jumping baby Jesus God," said Nyla.

"Exactly," I said.

"All that ballistic recoil," she said.

I nodded, letting it soak in.

She looked at me with what was either fright or respect—I hadn't known my bride long enough yet to know which. "Are you the only one who knows about this?" she demanded.

"Of course not. The people who snatched us are bound to know, but they're not around to ask about it. And I'm sure there are others. I've tried to bring it up a few times. Some people don't seem to get what I mean, like the Senator. Most of them—well, they just don't want to talk about it. Scared, I guess."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

She flared, "Damn right, they're scared! Personally I'm *panicked*."

"Well," I said, "considering how bad all this might turn out to be, you'd be crazy if you weren't. But look at the good side. You and I ought to be okay. We're going to be out in the desert, where it's not too likely anything really scary is going to be going on in any time. It'll be bizarre, all right, oh, boy, will it! But it won't be as physically dangerous as it would be in a city, say—where, I don't know, maybe a Zeppelin could fly right into your bedroom or something."

Nyla gave me a really unbridely look. Not loving a bit. "What you're telling me," she said scathingly, "is that we'll survive and screw the rest of the human race, right? *Right?*" she yelled. "And you've been having the nerve to tell me *I* was a tough, selfish, hardboiled—"

"Na, na," I said, gently putting my fingers across her lips, "I never said any of that. Exactly. And I do care about the human race. I care a lot."

"But— But then what are we going to do about it, Dom?"

I said, "Nothing, love. There's nothing we can do. It's just going to happen. . . . There's one good thing, though."

I waited for her to ask what the good thing was. When she started to scowl and her eyebrows knotted and she opened her mouth I didn't think I was going to like the way she was going to ask me, so I said hastily, "That is, it will start small. I'm pretty sure of that. There'll be lots of warning before it gets really bad—time to evacuate the cities, maybe, or do whatever anybody can do. And—it can't be prevented, do you see? So we'll just have to do the best we can."

She hopped out of bed and stared down at the empty plains below. I let her think it over. Finally she turned to me. "Dom?" she said. "Are you sure we're doing the right thing? I mean, you were talking about having kids and, I don't know, sometimes I think maybe I'd like that myself. But isn't this a kind of scary world to bring kids up in?"

I got up and stood beside her, the two of us naked and touching, hip to shoulder, with my arm around her. "You bet it is," I said. "But was there ever one that wasn't?" ■

● I am an optimist. From where it is, music is mostly all right, or at least in a healthy state for the future, in spite of the fact that it may sound as though it is being held hostage.

Duke Ellington

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

The Alternate View

THE FUTURE OF ENGINEERS

G. Harry Stine

A short time ago, I had the honor of being the speaker at the 50th Anniversary Colloquium of the National Society of Professional Engineers. The theme was, "Visions of the Future for Professional Practice." Some of what I said there might be of interest to you. I spoke on the subject, "Is There a Future For Engineers?"

In answering the question, one must first concede there will be a future that's different from the present. And that progress is being made today and will continue to be made in the future.

However, most people, professional engineers included, have difficulty conceiving that the future is going to be different from the present. And engineers are probably worse at forecasting the future than anyone else.

There's a reason for this because there's a difference between predicting and forecasting. An astronomer makes a prediction when he says there will be a total eclipse of the sun at a certain place at a specific moment in the future. A meteorologist makes a forecast when he states there's a thirty percent chance of rain tomorrow; it's speculation based upon the best available data but with a large dose of judgement—usually based upon empirical experience—involved as well.

Engineers are excellent predictors. The bridge won't fall down—provided the calculations are right and the fabricators follow the drawings and specs.

Engineers are poor forecasters because they've been strongly discouraged from speculating. An engineer may speculate in private on his/her own time, but not on company time and/or with projects where human lives may be at risk.

But speculation is required when considering the future because there are so many branches in the decision tree. And most forecasters are reluctant to believe and follow the two axioms developed by an outstanding engineer and a graduate of the U. S. Naval Academy, Robert A. Heinlein:

1. A common sense forecast is sure to err on the side of timidity, failure of imagination, and/or failure of nerve.

2. The more extravagant a forecast sounds at the time it is made, the more likely it is to come true.

Therefore, although engineers will make the future happen, very few engineers are daring enough to create extravagant forecasts because they're trained not to speculate.

So let me try. I can perhaps understand the problems because I'm a former engineer. I use the qualifier "former" because I no longer call myself current in my specialty, which was electronic engineering. I was trained when vacuum tubes (remember them?) were the basis of all electronic circuitry, which makes

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

me at least three technical generations behind the power curve. And when that happens, you can never really catch up even though you run like hell. Sure, it's a Red Queen's race; it always has been.

If we're going to look ahead 10 years, it's helpful to look back 25 years—providing one recognizes and is willing to accept the fact that progress is happening on a cubic curve: $y = x^3$. This may not sound reasonable, but (a) the future isn't reasonable, it's audacious; (b) this equation describes the track record thus far; and (c) it works in other areas of business planning and forecasting.

Think of what you use today in your practice, and then compare it against the situation a quarter of a century ago:

In 1960, engineers used slide rules. Some of you may still have your K&E Log-log-decitrig stashed away somewhere, but recent engineering graduates consider the slip stick to be a museum piece. (It does have one redeeming factor: It will continue to work when the batteries go dead.) Slide rules were normally used where three-digit data was adequate or where an engineer wanted to get some idea of a ballpark number.

If an engineer used a computer, it was a Victor, Marchant, Monroe, or Burroughs mechanical desk-top model. The only thing electrical about it was the AC motor that turned what was the hand crank on earlier models. Electronic digital computers were big, expensive, complicated gadgets that used thousands of vacuum tubes, ate kilowatts of electricity, and required tons of air conditioning. They could perform such miracles of computation as multiplying two thirteen-digit numbers in 31 microseconds. (Today's $9.95 four-function pocket calculator can multiply two eight-digit numbers and properly place the decimal point in about a microsecond.) Computers required a cordon of disciples known as "programmers" who had to program in machine languages because high-level languages were unknown. The biggest computer at the time was built by IBM as part of the USAF SAGE air defense system. SAGE used twenty-seven of these computers, each having 58,000 vacuum tubes and weighing 113 tons.

The laser was invented in 1960. It was a laboratory curiosity tagged as "an invention looking for a job."

The civil engineer worked with "classical materials"—i.e., stone, concrete, steel, perhaps some aluminum, all of which were upgraded modernized versions of materials that had been in use for a hundred to ten thousand years. Plastics were for cheap toys. Fiberglass was more of a decorative element than a structural material.

On the basis of that quick look back, is it possible to forecast some of the things that engineers will be using in the year 2000? By recalling that the turtle makes no progress unless his neck is out, let me stick mine out:

The computer revolution isn't over; it's just started. Because of explosive progress in the electronics field, driven by market pressures, computers are going to become smaller, faster, and more versatile engineering tools. We can look forward to "nuclear level" electronics wherein the movement of a single electron in a lattice or matrix will constitute a signal. Memory densities will have improved by two orders of

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

magnitude (or more) while the size of memory elements will have decreased by two orders of magnitude (or more). Computers will be largely self-programming. A goodly amount of what is currently called "artificial intelligence" —this term implies that we know what "intelligence" is, which may or may not be the case—will be state-of-the-art in the computers that the professional engineer will use. There will be no more worry about the accuracy or thoroughness of the programs, just as you probably don't worry today about the programming in your pocket calculator; you trust it.

The use of the computer as a *design tool* will mean that engineers will have the time to investigate multiple solutions to a problem, choosing the best answer in terms of client desires, project integrity, attractiveness, and a host of other factors that can be considered only after-the-fact today.

New materials will offer a wider menu of choice in design. What will these new materials be? Not only is my crystal ball very cloudy, but, if I knew, I would be busily at work right now writing up the patent disclosures.

There will be a growing change of emphasis in the engineering profession. Perhaps the best way to illustrate this is to point out that engineers should build the bridge where they determine the users need it and will use it, *not* where the users think they want it. There's a great difference between a want and a need. Where they want you to build the bridge may not satisfy the need, be economical, or even solve the basic problem the project is designed to eliminate. The users most often don't even know where or why to build the bridge or have rationalized a solution based on wishful thinking or pure hunch. Sometimes they don't even know they need a bridge.

And it's going to be up to the engineer to bring some stability into the current and future situation which appears to be going hyperbolically unstable. Our civilization seems to be operating like a truck driver who's blind, drunk, and out of control. I've got news for you: It is indeed running blind, drunk, and out of control. Rectifying the situation doesn't require the stultifying control that brings static stability, but the delicate touch that's necessary to achieve a condition very difficult to obtain: dynamic stability.

There will be opposition to what engineers want to do, have to do, and are trained to do. So what else is new? The opposition has always been there. There have always been "humanistic romantics" who would rather throw away centuries of accumulated knowledge in the vain hope of returning to the "simple life." There will always be those who yell for "soft technology" or "small technology," not knowing that these cannot exist without an infrastructure of very hard, very big technology. Unfortunately, you'll never be able to change their minds, no matter how beneficial, useful, or life-saving your creations are. Herbert George Wells, an outstanding futurist, summed it up by putting these words into the mouth of his antitechnologist, the sculptor Theotocopolis, in the1936 Alexander Korda film, *Things To Come*: "We will hate you more if you succeed than if you fail!"

But, of course, you'll succeed. So

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

don't worry about what the romantics say about you. In the foreseeable future, anti-intellectuals will continue to oppose the engineer's primary task: creating positive change.

And this task of creating positive change utilizing the basic principles of science and technology is why I believe there is indeed a future for engineers. In fact, the future belongs to engineers. Here's why:

The late Herman Kahn's last great forecast states, "Two hundred years ago, the human race almost everywhere was few, poor, and largely at the mercy of the forces of nature whereas two hundred years hence, barring some perverse combination of bad luck and bad management, the human race should be almost everywhere numerous, rich, and largely in control of the forces of nature."

Engineers will make this happen because they are the ones who can control the forces of nature. If the engineers don't take this job and run with it, they may be forced to take it to keep the world running.

I'm not suggesting that engineers will run the world. In the first place, most engineers wouldn't have the job even if you gave it to them. But the best leader is often a reluctant leader who'd rather get things straightened out so he (or she) can return to what he likes to do.

But to have a future, one must dare to dream. Roebling, Eiffel, and de Lessups dared to dream. All the great engineers dared to dream and had the conviction to make their dreams come true and create a better world.

So be daring in your dreams, because your wildest dreams will fall far short of what will really occur. ■

● Next month we begin an impressive new serial, *Marooned In Real Time*, by Vernor Vinge. It's a sequel, strictly speaking, to *The Peace War*—but as sequels go, this one is most unusual. For one thing, it takes place some fifty million years after the earlier book; so you needn't worry if you didn't read or don't remember details from that one. If you do remember, the "time-freezing" property of bobbles may give you a clue as to how such a distant future can have characters who are even recognizably human. But rest assured that this future is *very* different from the present. Among other things, it involves what might be considered the ultimate murder mystery—or is it? And the solution to that mystery, in turn, involves one of the most strikingly original concepts I've seen in a long time—though when you've seen it you may wonder why you didn't think of it a long time ago.

The May issue also offers "the last story ever set in Callahan's Place," by Spider Robinson; and Duncan Lunan's attempt at a "final solution" to the Fermi Paradox: if there are other intelligences out there, and communication isn't all that hard, why haven't we heard from anybody?

IN TIMES TO COME

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Ever wonder what's *really* behind those ads in the back of certain magazines?

Steven Gould

THE NO LICENSE NEEDED, FUN TO DRIVE, BUILT EASILY WITH ORDINARY TOOLS, REVOLUTIONARY, GUARANTEED, LAWNMOWER ENGINE POWERED, LOW COST, COMPACT, AND DEPENDABLE MAIL ORDER DEVICE

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

It's been a quiet week in Burton. Not like last month, with the ruckus kicked up by Leroy Dingle's latest do-it-yourself project. Boy, everybody's still talking about that. The city aldermen even talked about forming a committee to investigate the un-Christian event. But they didn't. Rabbi Small and Father Donahoe talked them out of it.

It's over, they said. Leave it be.

Now there are those in Burton who maintain that Leroy isn't all there. Roberta Rae Smith at Pearly's Beauty Salon and Face Retread even went so far as to say that God was feeling especially humorous the day he made Leroy.

You know. Like a whoopee cushion God delivered down for Burton's collective fanny.

Now mostly Leroy never bothers people. He certainly isn't a malicious sort of person. He just is different.

Maybe it's because his house is right out there by the junk yard. People don't think that's right, living right out there by all the rusty trash.

Leroy doesn't mind, though. He thinks it's kind of pretty to look out his kitchen window in the morning with the coffee smelling so good and fresh and *morning-like*, and to see the sunlight bounce off the hood of a sixty-seven Chevy or the hub cap on a tangled pile of old rebar is something special. Or in the winter, when the snow covers the old cars and you can just imagine that under that blanket of white is a fine shiny new car, just ready to drive off if you just brushed the snow away.

Maybe people don't like Leroy's operating the only tow truck in town. Sure, most of his customers are the city folk who break down on the Interstate west of town. City folk get what they deserve. If they don't want to pay tow fees let them stay in their smelly city. But whenever Ernie Peabody, the fire marshall, gets down on Sheriff Tate about people parking in front of the fire hydrants, Sheriff Tate calls Leroy and has their cars towed off.

They don't blame the Sheriff.

Don't park there, Elma, they'd say. *Leroy* will get you.

Now this kind of thing does bother Leroy, but he doesn't let it show. Nope. He just shuts his mouth firm, like Clint Eastwood, and walks on by.

But, Leroy has his whimsical side, too. He loves gadgets. Not just any gadgets, but gadgets that you make yourself. Leroy must have ordered every set of plans in the back of *Popular Science*, *Popular Mechanics*, *Popular Railroading*, and *Popular Electronics*. He's already assembled the bikecar, the hovercraft, the emergency strobe-blinker, and the laser rat trap. He tried the Bensen Gyrocopter but stopped when he found out he was afraid of heights. In short, even if Leroy wasn't in the business he was in, his place would still look like a junk yard.

So, it's not the first time Leroy has ordered something through the mail.

The ad read:

> Fun to drive! Built easily with ordinary tools! Revolutionary! Guaranteed! Lawnmower engine powered! Low cost, compact, and dependable! No license needed! For plans and special parts, send thirty dollars to:

And Leroy read an address in Connecticut.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Now if it had been California, or even New York, you'd know it was some sort of hoax. But Connecticut? You had to believe in Connecticut.

It will not have escaped your attention that the ad said nothing about what the device *was*, but this didn't matter to Leroy—not one bit.

The plans arrived on a hot summer Thursday morning, a box wrapped in brown paper and too big for the mailbox, so Joe the mailman put it on the porch.

Leroy found it there an hour later and took it inside, all thoughts of other work immediately vanishing. He spread the plans out in the living room, weighting down the corners with books and ashtrays and dishes.

They were a wonder.

Crisp, clean sheets of the finest paper, with dark clear images of complex simplicity. Just looking at them gave him goosebumps, made his hands itch to start building things. They were just that good.

And the special parts were amazing.

They were in separate little boxes, identical, two metal spheres with a threaded hole in each one. At least Leroy thought they were metal. They were heavy like metal, with a black matte finish, smooth and cool to the touch.

They reminded Leory of billiard balls, which he'd seen once in the city. About that size, but a lot denser. Billiards was something frowned upon in Burton. Brother Mueller, the Baptist preacher, was constantly talking about the evils of billiards and wallowing in the juices of sin.

Leroy didn't see what playing a game, unless of course it was poker, had to do with sinning. He also wasn't sure what the juices of sin were, but if he knew anything, he knew they sounded *fascinating*.

Well, Leroy wasn't much good for anything else the next few days. Arnie Martinez, who lived down the street and across the railroad tracks heard sawing, banging, and power tools late into the night. When he looked out the window at nine he saw bright flashes from a welding arc casting shadows that made vivid prehistoric monsters out of the piled cars. He crossed himself and resolved to attend Mass this year, next year at the latest.

Floyd dropped by early Sunday morning.

Floyd and Leroy graduated from high school together—they were the class of '65. The whole class—Burton High School was never very big.

Anyway, Floyd found Leroy standing in the living room staring at two small, black spheroids on his living room floor. He was wearing bib coveralls without a shirt and he looked like he hadn't slept all night.

"What'cha doing, Leroy?"

Leroy looked up, surprised. "I'm experimenting. Either that or going nuts." He bent down and picked up the spheres. "Here." He held them out to Floyd.

Floyd blinked and took one in each hand. "Heavy little suckers. What are they?"

"Parts," said Leroy. "Move your hands slowly apart."

"Okay." Floyd slowly spread his arms. When the spheres were about two and a half feet from each other he felt

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

them vibrate slightly, and suddenly they weren't in his hands anymore. One hit the carpeted floor with a "thunk." The other landed on his foot.

Floyd said a word which Brother Mueller would probably not have approved of and began hopping around the room on one foot.

"Floyd," said Leroy. "Stop fooling around and tell me what's going on."

Floyd made a suggestion that Brother Mueller, Father Donahoe, and Rabbi Small would definitely frown upon.

Finally though, Floyd tried the experiment again, his feet safely out of the way. He blinked as he watched the spheres drop *through* his hands.

An emergency glass of water later he said, "Well, I don't know, Leroy. You tell me."

Leroy picked up the two balls and said, "Come on outside, I want to show you something."

Floyd followed him out back to the junk yard side of the house and blinked. "What is it?"

It stood taller than Floyd and was ten feet long, a cylindrical cage, kinda, made of welded rebar. Mounted outside the rebar was a web of copper tubing that had been beaten flat and attached to the rebar with small strips of copper. Inside it, about midway, was the front seat out of a Ford Courier Pickup. Behind the seat was a gimballed platform with a lawnmower engine and a belt and pulley connected to two arms, which stuck up in the air. They had threaded ends.

In front of the seat was a control stick hooked to the gimballed platform and a columnlike affair that rose out of the top of the cage. This column was made of copper tubing and had mounted in the top a large mirror that looked like it came from the door of a pickup truck. Floyd saw another mirror at the bottom of the column and realized it was a periscope.

"What is it?" he repeated. "Some sort of submarine?"

"Close," said Leroy. He opened a door on the side of the cage and climbed in. Balanced on the seat, he took the two balls and threaded them onto the arms atop the lawnmower engine. "Come on," he said to Floyd. "Get in."

Now Floyd always was a bit of a free thinker. He even thought it was a good thing when gas stations went to self-service; and when Rabbi Small moved to town, Floyd was vocal in his support. But this was a bit much.

"No," he said.

"Ah, don't be such a chicken. Get in."

Floyd just shook his head and crossed his arms.

"Okay," said Leroy. "I'll test it alone."

He shut the door and latched it, then reached over his shoulder and pulled the starter cord on the lawnmower engine. It started after two pulls and smoke started coming out a pipe on top of the periscope. The balls started spinning around on the arms. The faster they spun, the farther apart they got. Soon, they were approaching the two-and-a-half foot diameter mark, spinning so fast that they looked like a dark circle floating above the engine.

Suddenly, the black circle turned silver, shimmering like something out of a science fiction movie. Then, quick as it started, the shimmering spread to the

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

copper strips on the outside of the cage and started arching between the strips, filling in the gaps. With a sudden humming sound that muffled the lawnmower inside, the cage was completely enclosed by the shimmering field.

Floyd backed up so fast he hit the back porch steps and sat down hard.

The shimmering thing suddenly sank four feet into the ground. Then it lurched forward, toward the junk yard, and continued to sink until the only thing sticking out of the ground was the periscope.

Floyd looked in amazement. The ground was completely undisturbed. The thing moved just as if the ground wasn't there. His mouth was still open when the periscope sailed straight up to, and then through, the junked cars.

"Oh, my. Oh, my."

Then the periscope came back out of the junked cars and came back toward the house. Floyd looked down on the opening at the top of the periscope and saw Leroy's grinning face in the mirror. The periscope cruised right across the backyard and right at the porch steps.

Floyd scrambled to the side of the porch and jumped over the railing into the petunias.

The periscope sailed right through the porch, through the screen door, and into the kitchen.

Then, before he could scramble up out of the flowers, the periscope popped out of the wall and went right through Floyd, right across his legs.

It tickled.

The periscope moved back out into the yard, then the whole thing rose out of the ground and turned back off.

Leroy laughed out loud as he scrambled out of the seat and opened the door. "Will you look at that. Will you look at that." He walked over and stood over Floyd. "There you go, again, fooling around. Come on. Let's go for a spin."

Floyd stood slowly. He was thinking about how the periscope had tickled. "It's not a submarine. It's a subterrain."

"Sure. A subterrain. Under the ground. You wanna come?"

"Okay."

Willy Nobnik was riding his bicycle down by the railroad tracks when the periscope came cruising down the road. Willy was an imaginative lad, and thought the thing must be a robot moving down the road, just like a movie. He rode up beside it and tried to tap it on its head. When his hand sunk through it, he fell over onto the dirt road and skinned his elbow.

Should have been in Sunday School, Brother Mueller commented later.

Floyd and Leroy cut over to Main Street and cruised around the town hall until Margaret Barton swerved her Edsel to avoid the periscope sticking out of the asphalt and smashed the cast iron deer that Sheriff Tate had put on the courthouse lawn.

"Oh, darn," said Leroy, which was pretty racy language for him. He pushed the control stick toward the front of the cage. The subterrain tilted forward and dove deeper into the earth. The periscope sank beneath the asphalt and the exhaust from the lawnmower engine started accumulating inside the interior of the machine.

"How will we know where we are, Leroy?"

Leroy blinked. "What does it matter?

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

We can always just poke on up and see."

Now Floyd has always been a bit of a pessimist. Not that he wants to be. It's just that he has a gift. A gift for picking out things that can go wrong. Like when they were kids walking through the woods and Floyd would think about the asylum over by Smithsville. Then he'd ask, "Do you think one of those child killers could have gotten out and be in these woods?" Real popular questions like that.

His question this time threw a cold sweat into Leroy. It was, "What happens if the lawnmower engine stops?"

About this time, Brother Mueller was just getting warmed up over at the Save Us From Perpetual Sin Baptist Tabernacle. His sermon that week concerned Rock Videos and Godless Communism, though nobody could ever recall a time he'd talked about Godly Communism.

The Tabernacle was packed, 'cause everyone knew what a good Godless Communism sermon Brother Mueller could give. He was just getting to the good part—where he compares Russia with Sodom and Gomorrah, and talking about how the earth is going to open up and suck all that sin into the depths of Hell.

They loved that line. The depths of Hell. Brother Mueller can describe the seven circles of Hades in such vivid detail that it makes *Friday the Thirteenth* seem like *Mother Goose*. The congregation quaked in the pews with delicious fear.

"And SINNERS! I say *SINNERS!* Do you believe?"

And Katy Lou Colby in the second pew wailed out, "I believe!" She never kept her mouth shut during the week so why should Sunday be any different?

And Brother Mueller asked again, "*DO YOU BELIEVE?*

"And that is good, for without belief you are lost forever in Hell! The fires will scorch the skin from your bones and the eyes from your head."

It was about then that Sister Katy Lou jumped to her feet and waved her hands in the sky, shouting "Hallelujah!" And those close to her were amazed to feel the ground move, but not too amazed, since Sister Katy Lou weighed in at 280 pounds. Then they felt a humming and even Brother Mueller stopped his ranting to look down at Sister Katy Lou. For suddenly smoke seemed to pour from her head and then a silver, shimmering column, almost like a halo, rose from her head.

"Lord save us," yelled Calvin Colby, and jumped to the side as the silver swelling rose from the very floor and started to envelop the pew. The congregation scrambled back away and Brother Mueller clutched his Bible to his chest. The bottom of the subterrain rose above the pews, Katy Lou's massive thighs sticking down out of the shimmering mass. Then she staggered sideways, fainting, to the floor.

The subterrain flickered then and the shimmering vanished, leaving Floyd and Leroy sitting in the middle of the wire cage surrounded by a cloud of exhaust fumes. The lawnmower engine was running at an idle, keeping the spinning spheroids at less than critical distance.

"Demons from Hell," gasped Brother Mueller.

Floyd shoved the door open and

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

scrambled out of the cage, coughing furiously. Leroy was checking the gas level in the little tank.

"Damnation," he said. "Almost empty." He climbed down from the cage to get some air.

Brother Mueller took a faceful of the lawnmower fumes and felt sure the fires of Hell were upon him. With a shouted "Back to Hell, Demon!" he flung his Bible at the subterrain.

Leroy looked up at this and saw the Bible soar up into the air, graceful like, the pages ruffling slightly in the breeze. Then it dropped, just missing the periscope, and fell between the copper webbing above the engine. It hit the throttle, jamming it on full, then landed on the forward edge of the gimballed platform and tilted it forward.

"No!" yelled Leroy, but it was too late. The field flickered into existence and the subterrain slid forward toward the pulpit, sinking as it went.

Floyd had the presence of mind to drag Sister Katy Lou back from the sinking craft. He didn't think it would hurt her if the field was on, but he didn't want to know what would happen if it failed while it was still in her.

Brother Mueller watched the silver apparition lurching toward him and dropped to his knees. "OH, LORD, keep this, Your servant, from the clutches of evil."

The prayer must have worked, for, just as the main body of the subterrain sank completely beneath the concrete floor of the Tabernacle and the periscope was staring the kneeling preacher right in the eye, the lawnmower engine ran out of gas and the field flickered off.

There they were, Floyd and Leroy, hardly dressed for church, staring at Brother Mueller, down on his knees before a column of copper tubing sticking out of the concrete.

Well, it was kind of like a miracle, you know?

They had to cut the periscope off right where it stuck out of the pavement and polish the edges down, but you can still see the circles, like they were set there before the floor was poured. Like a miracle.

Sister Katy Lou was sure for a while that the hand of God was upon her, and the next three sermons at the Save Us From Perpetual Sin Baptist Tabernacle were extremely well attended. Even some of the Catholics showed up to see if anything that exciting was going to happen again, but it didn't. Sadly, Brother Mueller's sermons lacked their usual fire and it was said he missed his old Bible.

Leroy and Floyd kinda faded out the back door in the excitement, deciding it might be a good idea if they went fishing in the woods for a week or two.

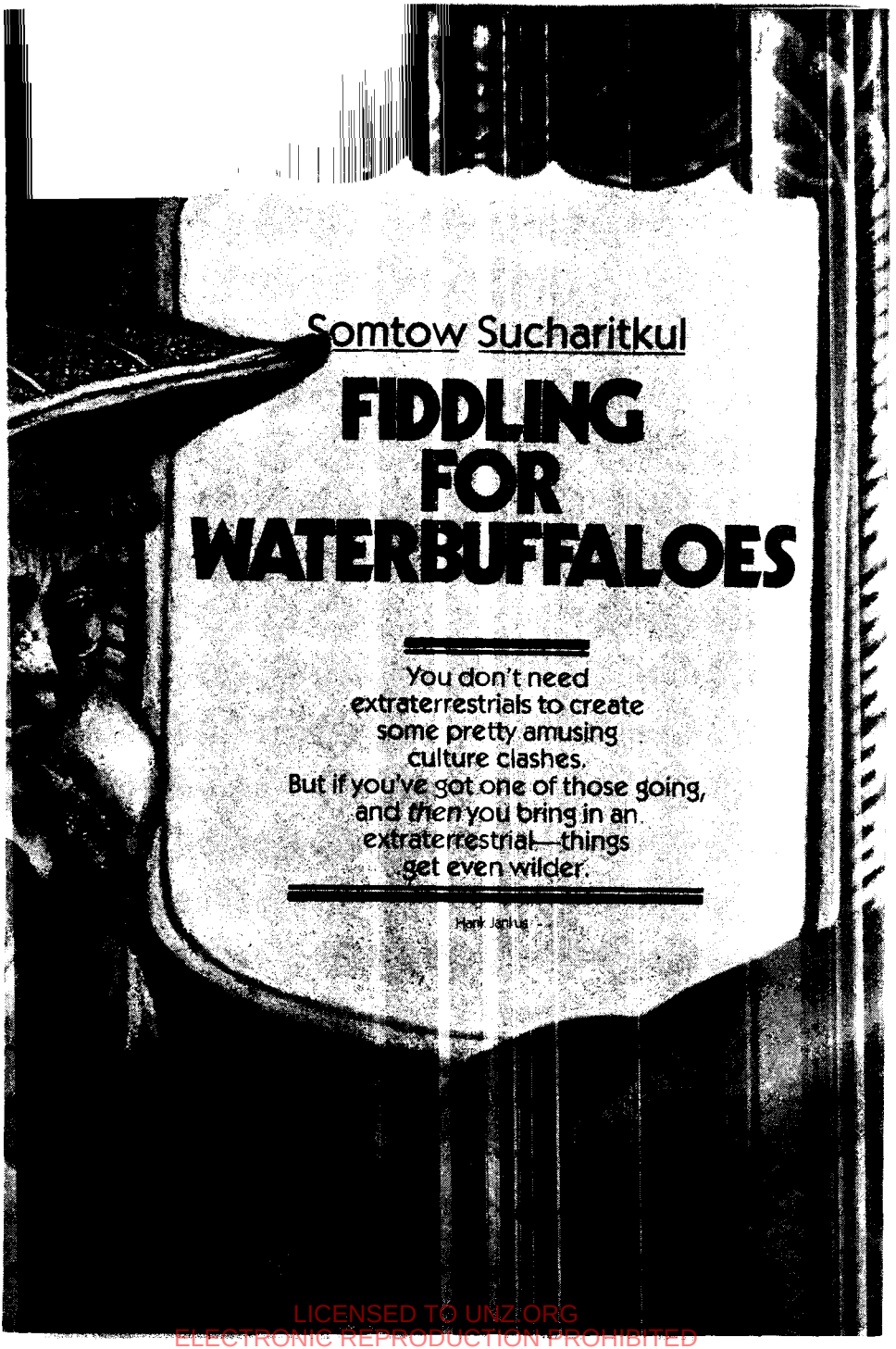
They did, but before they left, someone said he saw Leroy put a letter in the mail. They said it was addressed to someplace in Connecticut. ■

● If you do not think about the future, you cannot have one.

John Galsworthy

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED


Somtow Sucharitkul
FIDDLING FOR WATERBUFFALOES
You don't need extraterrestrials to create some pretty amusing culture clashes. But if you've got one of those going, and *then* you bring in an extraterrestrial—things get even wilder.
Hank Jankus

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

When my brother Lek and I were children we were only allowed to go to Prasongburi once a week. That was the day our mothers went to the marketplace and went to make merit at the temple. Our grandmother, our mothers' mother, spent the days chewing betelnut and fashioning intricate mobiles out of dried palm leaves; not just the usual fish-shapes, dozens of tiny baby fish swinging from a big mother fish lacquered in bright red or orange, but also more elaborate shapes: lions and tigers and mythical beasts, nagas that swallowed their own tails. It was our job to sell them to the *thaokae* who owned the only souvenir shop in the town . . . the only store with one of those aluminum gratings that you pull shut to lock up at night, just like the ones in Bangkok.

It was always difficult to get him to take the ones that weren't fish. Once we took in a mobile made entirely of spaceships, which our grandmother had copied from one of the American TV shows. (In view of our later experiences, this proved particularly prophetic.) "Everyone knows," the *thaokae* said (that was the time he admitted us to his inner sanctum, where he would smoke opium from an impressive *bong* and puff it in our faces) "that a *plataphien* mobile has fish in it. Everyone wants sweet little fishies to hang over their baby's cradle. I mean, those spaceships are a tribute to your grandmother's skill at weaving dried palm leaves, but as far as the tourists are concerned, it's just fiddling for waterbuffaloes." He meant there was no point in doing such fine work because it would be wasted on his customers.

We ended up with maybe ten baht apiece for my grandmother's labors, and we'd carefully tuck away two of the little blue banknotes (this was in the year 2504 B.E., long before they debased the baht into a mere coin) so that we could go to the movies. The American ones were funniest—especially the James Bond ones—because the dubbers had the most outrageous ad libs. I remember that in *Goldfinger* the dubbers kept putting in jokes about the fairy tale of Jao Ngo, which is about a hideous monster who falls into a tank of gold paint and becomes very handsome. The audience became so wild with laughter that they actually stormed the dubbers' booth and started improvising their own puns. I particularly remember that day because we were waiting for the monsoon to burst, and the heat had been making everyone crazy.

Seconds after we left the theater it came all at once, and the way home was so impassable we had to stay at the village before our village, and then we had to go home by boat, rowing frantically by the side of the drowned road. The fish were so thick you could pull them from the water in handfulls.

That was when my brother Lek said to me, "You know, Noi, I think it would be grand to be a movie dubber."

"That's silly, Phii Lek," I said. "Someone has to herd the waterbuffaloes and sell the mobiles and—"

"That's what we both should do. So we don't have to work on the farm anymore." Our mothers, who were rowing the boat, pricked up their ears at that. Something to report back to our father, perhaps. "We could live in the town. I love that town."

"It's not so great," my mother said.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

My senior mother (Phii Lek's mother) agreed. "We went to Chiangmai once, for the beauty contest. Now there was a town. Streets that wind on and on . . . and air-conditioning in almost every public building!"

"We didn't win the beauty contest, though," my mother said sadly. She didn't say it, but she implied that that was how they'd both ended up marrying my father. "Our stars were bad. Maybe in my next life—"

"I'm not waiting till my next life," my brother said. "When I'm grown up they'll have air-conditioning in Prasongburi, and I'll be dubbing movies every night."

The sun was beating down, blinding, sizzling. We threw off our clothes and dived from the boat. The water was cool, mudflecked; we pushed our way through the reeds.

The storm had blown the village's TV antenna out into the paddyfield. We watched *Star Trek* at the headsman's house, our arms clutching the railings on his porch, our feet dangling, slipping against the stilts that were still soaked with rain. It was fuzzy and the sound was off, so Phii Lek put on a magnificent performance, putting discreet obscenities into the mouths of Kirk and Spock while the old men laughed and the coils of mosquito incense smoked through the humid evening. At night, when we were both tucked in under our mosquito netting, I dreamed about going into space and finding my grandmother's palm-leaf mobiles hanging from the points of the stars.

Ten years later they built a highway from Bangkok to Chiangmai, and there were no more casual tourists in Prasongburi. Some American archaeologists started digging at the site of an old Khmer city nearby. The movie theater never did get air-conditioning, but my grandmother got into faking antiques; it turned out to be infinitely more lucrative than fish mobiles, and when the *thaokae* died, she and my two mothers were actually able to buy the place from his intransigent nephew. The three of them turned it into an "antique" place (fakes in the front, the few genuine pieces carefully hoarded in the air-conditioned back room) and our father set about looking for a third wife as befit his improved station in life.

My family were also able to buy a half-interest in the movie theater, and that was how my brother and I ended up in the dubbing booth after all. Now, the fact of the matter was, sound projection systems in theaters had become prevalent all over the country by then, and Lek and I both knew that live movie dubbing was a dying art. Only the fact that the highway didn't come anywhere near Prasongburi prevented its citizens from positively demanding talkies. But we were young and, relatively speaking, wealthy; we wanted to have a bit of fun before having the drudgery of marriage and earning a real living thrust upon us. Lek did most of the dubbing—he was astonishingly convincing at female voices as well as male—while I contributed the sound effects and played background music from the library of scratched records we'd inherited from the previous régime.

Since we two were the only purveyors of, well, foreign culture in the town, you'd think we would be the ones best equipped to deal with an alien invasion.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Apparently the aliens thought so too.

Aliens were furthest from my mind the day it happened, though. I was putting in some time at the shop and trying to pacify my three honored parents, who were going at it like cats and dogs in the back.

"If you dare bring that bitch into our house," Elder Mother was saying, fanning herself feverishly with a plastic fan—for our air-conditioning had broken down, as usual—"I'll leave."

"Well," Younger Mother (my own) said, "I don't mind as long as you make sure she's a servant. But if you marry her—"

"Well, *I* mind, I'm telling you!" my other mother shouted. "If the two of us aren't enough for you, I've three more cousins up north, decent, hardworking girls who'll bring in money, not use it up."

"Anyway, if you simply *have* to spend money," Younger Mother said, "what's wrong with a new pick-up truck?"

"I'm not dealing with that usurious *thaokae* in Ban Kraduk," my father said, taking another swig of his *Mekong* whiskey, and "and there's no other way of coming up with a down payment . . . and besides, I happen to be a very horny man."

"All of you shut up," my grandmother said from somewhere out back, where she had been meticulously aging some pots into a semblance of twelfth-century Sawankhalok ware. "All this chatter disturbs my work."

"Yes, *khun mae*," the three of them chorused back respectfully.

My Elder Mother hissed, "But watch out, my dear husband. I read a story in *Siam Rath* about a woman who castrated her unfaithful husband and fed his eggs to the ducks!"

My father sucked in his breath and took a comforting gulp of whiskey as I went to the front to answer a customer.

She was one of those archaeologists or anthropologists or something. She was tall and smelly, as all *farangs* are (they have very active sweat glands); she wore a sort of safari outfit, and she had long hair, stringy from her digging and the humidity. She was scrutinizing the spaceship mobile my grandmother had made ten years ago—it still had not sold, and we had kept it as a memento of hard times—and muttering to herself words that sounded like, "Warp factor five!"

My brother and I know some English, and I was preparing to embarrass myself by exercising that ungrateful, toneless tongue, when she addressed me in Thai.

"Greetings to you, honored sir," she said, and brought her palms together in a clumsy but heartfelt *wai*. I couldn't suppress a laugh. "Why, didn't I do that right?" she demanded.

"You did it remarkably well," I said. "But you shouldn't go to such lengths. I'm only a shopkeeper, and you're not supposed to *wai* first. But I suppose I should give you 'E for effort.' " (I said this phrase in her language, having learned it from another archaeologist the previous year) "since few would even try as hard as you."

"Oh, but I'm doing my Ph.D. in Southeast Asian aesthetics at UCLA," she said. "By all means, correct me." She started to pull out a notebook.

I had never, as we say, "arrived" in America, though my sexual adventures

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

had recently included an aging, overwhelmingly odoriferous Frenchwoman and the daughter of the Indian *babu* who sold cloth in the next town, and the prospect suddenly seemed rather inviting. Emboldened, I said, "But to really study our culture, you might consider—" and eyed her with undisguised interest.

She laughed. *Farang* women are exceptional, in that one need not make overtures to them subtly, but may approach the matter in a no-nonsense, fashion, as a plumber might regard a sewage pipe. "Jesus," she said in English, "I think he's asking me for a date!"

"I understood that," I said.

"Where will we go?" she said in Thai, giggling. "I've got the day off. And the night, I might add. Oh, that's not correct, is it? You should send a go-between to my father, or something."

"Only if the liaison is intended to be permanent," I said quickly, lest anthropology get the better of lust. "Well, we could go to a movie."

"What's showing?" she said. "Why, this is just like back home, and me a teenager again." She bent down, anxious to please, and started to deliver a sloppy kiss to my forehead. I recoiled. "Oh, I forgot," she said. "You people frown on public displays."

"*Star Wars*," I said.

"Oh, but I've seen that twenty times."

"Ah, but have you seen it—dubbed *live*, in a provincial Thai theater without air-conditioning? Think of the glorious field notes you could write."

"You Thai men are all alike," she said, intimating that she had had a vast experience of them. "Very well. What time? By the way, my name is Mary, Mary Mason."

We were an hour late getting the show started, which was pretty normal, and the audience was getting so restless that some of them had started an impromptu bawdy-rhyming contest in the front rows. My brother and I had manned the booth and were studying the script. He would do all the main characters, and I would do such meaty rôles as the Second Stormtrooper.

"Let's begin," Phii Lek said. "She won't come anyway."

Mary turned up just as we were lowering the house lights. She had bathed (my brother sniffed appreciatingly as she entered the dubbing booth) and wore a clean *sarong*, which did not look too bad on her.

"Can I do Princess Leia?" she said, *wai*-ing to Phii Lek as though she were already his younger sibling by virtue of her as-yet-unconsummated association with me.

"You can *read* Thai?" Phii Lek said in astonishment.

"I have my Masters' in Siamese from Michigan U," she said huffily, "and studied under Bill Gedney." We shrugged.

"Yes, but you can't improvise," my brother said.

She agreed, pulled out her notebook, and sat down in a corner. My brother started to put on a wild performance, while I ran hither and thither putting on records and creating sound effects out of my box of props. We began the opening chase scene with Tchaikovsky's Piano Concerto, which kept skipping; at last the needle got stuck and I turned

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

the volume down hastily just as my brother (in the tones of the heroic Princess Leia) was supposed to murmur, "Help me, Obiwan Kenobi. You're my only hope." Instead, he began to moan like a harlot in heat, screeching out, "Oh, I need a man, I do, I do! These robots are no good in bed!"

At that point Mary became hysterical with laughter. She fell out of her chair and collided with the shoe rack. I hastened to rescue her from the indignity of having her face next to a stack of filthy flipflops, and could not prevent myself from grabbing her. She put her arms around my waist and indecorously refused to let go, while my brother, warming to the audience reaction, began to ad lib ever more outrageously.

It was only after the movie, when I had put on the 45 of the Royal Anthem and everyone had stood up to pay homage to the Sacred Majesty of the King, that I noticed something wrong with my brother. For one thing, he did not rise in respect, even though he was ordinarily the most devout of people. He sat bunched up in a corner of the dubbing booth, with his eyes darting from side to side like window wipers.

I watched him anxiously but dared not move until the Royal Anthem had finished playing.

Then, tentatively, I tapped him on the shoulder. "Phii Lek," I said, "it's time we went home."

He turned on me and snarled . . . then he fell on the floor and began dragging himself forward in a very strange manner, propelling himself with his chin and elbows along the woven-rush matting at our feet.

Mary said, "Is *that* something worth reporting on?" and began scribbling wildly in her notebook.

"Phii Lek," I said to my brother in terms of utmost respect, for I thought he might be punishing me for some imagined grievance, "are you ill?" Suddenly I thought I had it figured out. "If you're playing 'putting on the anthropologists,' Elder Sibling, I don't think this one's going to be taken in."

"You are part of a rebel alliance, and a traitor!" my brother intoned—in English—in a harsh, unearthly voice. "Take her away!"

"That's . . . my God, that's James Earl Jones's voice," Mary said, forgetting in her confusion to speak Thai. "That's from the movie we just saw."

"What are we going to do?" I said, panicking. My older brother was crawling around at my feet, making me feel distinctly uncomfortable because of the elevation of my head over the head of a person of higher status, so I dropped down on my hands and knees so as to maintain my head at the properly respectful level. Meanwhile, he was wriggling around on his belly.

Amid all this, Mary's notebook and pens clattered to the floor and she began to scream.

At that moment, my grandmother entered the booth and stared about wildly. I attempted, from my prone position, to perform the appropriate *wai*, but Phii Lek was rolling around and making peculiar hissing noises. Mary started to stutter, "*Khun yaai*, I don't what happened, they just suddenly started acting this way—"

"Don't you *khun yaai* me," grandmother snapped. "I'm no kin to any foreigners, thank you!" She surveyed

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

the spectacle before her with mounting horror. "Oh, my terrible karma!" she cried. "Demons have transformed my grandsons into dogs!"

On the street, there were crowds everywhere. I could hear people babbling all about mysterious lights in the sky . . . portents and celestial signs. Someone said something about the spectacle outside being more impressive than the *Star Wars* effects inside the theater. Apparently the main pagoda of the temple had seemed on fire for a few minutes and they'd called in a fire-fighting squad from the next town. "Who'd have thought of it?" my grandmother was complaining. "A demon visits Prasongburi—and makes straight for my own grandson!"

When we got to the shop—Mary still tagging behind and furiously taking notes on our social customs—the situation was even worse. The skirmish between my father and mothers had crescendoed to an all-out war.

"That's why I came to fetch you, children," my grandmother said. "Maybe you can referee this boxing match." A hefty celadon pot came whistling through the air and shattered on the overhead electric fan. We scurried for cover . . . all except my brother, who obliviously crawled about on his hands and knees, occasionally spouting lines from *Star Wars*.

Shrieking, Mary ran after the potshards. "My god, that thing's eight hundred years old—"

"Bah! I faked it last week," my grandmother said, forcing the *farang* woman to gape in mingled horror and admiration.

"All right, all right," my father said, fleeing from the back room with my mothers in hot pursuit. "I won't marry her . . . but I want a little more kindness out of the two of you . . . oh, my terrible karma."

He tripped over my brother and went sprawling to the floor. "What's wrong with him?"

"You fool!" my grandmother said. "Your own son has become possessed by demons . . . and it's all because of your sexual excesses."

My father stopped and stared at my brother. Then, murmuring a brief prayer to the Lord Buddha, he retired cowering behind the shop counter. "What must I do?"

His wives came marching out behind him. Elder Mother hastened to succor Phii Lek. Younger Mother took in the situation and said, "I haven't seen anyone this possessed since my cousin Phii Daeng spent the night in a graveyard trying to get a vision of a winning lottery ticket number."

"It's all your fault," Phi Lek's mother said, turning wrathfully on my father. "You're all too eager to douse your staff of passion, and now my grandson has been turned into a monster!" The logic of this accusation escaped me, but my father seemed convinced.

"I'll go and *buat phra* for three months," he said, affecting a tone of deep piety. "I'll cut my hair off tomorrow and enter the nearest monastery. That ought to do the trick. Oh, my son, my son, what have I done?"

"Well," my grandmother said, "a little abstinence should do you good. I always thought you were unwise not to enter the monkhood at twenty like an

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

obedient son should . . . cursing me to be reborn on Earth istead of spending my next life in heaven as I ought, considering how I've worked my fingers to the bone for you! It's about time, that's what I say. A twenty-year-old belongs in a temple, not in the village scouts killing communists. Time for that when you've done your filial duty . . . well, twenty-five years late is better than nothing."

Seeing himself trapped between several painful alternatives, my father bowed his head, raised his palms in a gesture of respect, and said, "All right, *khun mae yaai*, if that's what you want."

When my father and the elder females of the family had left to pack his things, I was left with my older brother and with the bizarre American woman, in the antique shop in the middle of the night. They had taken the truck back to the village (which now boasted a good half-dozen motor vehicles, one of them ours) and we were stranded. In the heat of their argument and my father's repentance, they seemed to have forgotten all about us.

It was at that moment that my brother chose to snap out of whatever it was that possessed him.

Calmly he rose from the floor, wiped a few foamflecks from his mouth with his sleeve, and sat down on the stool behind the counter. It took him a minute or two to recognize us, and then he said, "Well, well, Ai Noi! I gave the family quite a scare, didn't I?"

I was even more frightened now than I had been before. I knew very well that night is the time of spirits, and I was completely convinced that some spirit or another had taken hold of Phii Lek, though I was unsure about the part about my father being punished for his roving eyes and hands. I said, "Yes, *Khun Phii*, it was the most astonishing performance I've ever seen. Indeed, a bit too astonishing, if you don't mind your Humble Younger Sibling saying so. I mean, do you think they really appreciated it? If you ask me, you were just fiddling for waterbuffaloes."

"The most amazing thing is this . . . they weren't even after me!" He pointed at Mary. "They're in the wrong brain! It was her they wanted. But we all look alike to them. And I was imitating a woman's voice when they were trying to get a fix on the psychic transference. So they made an error of a few decimal places, and—poof!— here I am!"

"Pen baa pai laew!" I whispered to Mary Mason.

"I heard that!" my brother riposted. "But I am not mad. I am quite, quite sane, and I have been taken over by a *manus tang dao*."

"What's that?" Mary asked me.

"A being from another star."

"Far frigging out! An extraterrestrial!" she said in English. I didn't understand a word of it; I thought it must be some kind of anthropology jargon.

"Look, I can't talk long, but . . . you see, they're after Mary. One of them is trying to send a message to America . . . something to do with the Khmer ruins . . . some kind of artifact . . . to another of these creatures who is walking around in the body of a professor at UCLA. This *farang* woman seemed ideal; she could journey back without

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

causing any suspicion. But, you see, we all look alike to them, and—"

"Well, can't you tell whatever it is to stop inhabiting your body and transfer itself to—?"

"Hell, no!" Mary said, and started to back away. "Native customs are all very well, but this is a bit more than I bargained for."

"Psychic transference too difficult . . . additional expenditure of energy impractical at present stage . . . but message must get through. . . ." Suddenly he clawed at his throat for a few moments, and then fell writhing to the floor in another fit. "Can't get used to this gravity," he moaned. "Legs instead of pseudopods—and the contents of the stomach make me sick—there's at least fifty whole undigested chilies down here—oh, I'm going to puke—"

"By Buddha, Dharma and Sangkha!" I cried. "Quick, Mary, help me with him. Give me something to catch his vomit."

"Will this do?" she said, pulling down something from the shelf. Distractedly I motioned her to put it up to his mouth.

Only when he had begun regurgitating into the bowl did I realize what she'd done. "You imbecile!" I said. "That's a genuine Ming spittoon!"

"I thought they were all fakes," she said, holding up my brother as he slowly turned green.

"We do have some *genuine* items here," I said disdainfully, "for those who can tell the difference."

"You mean, for *Thai* collectors," she said, hurt.

"Well, what can you expect?" I said, becoming furious. "You come here, you dig up all our ancient treasures, violate the chastity of our women—"

"Look who's talking!" Mary said gently. "Male chauvinist pig," she added in English.

"Let's not fight," I said. "He seems better now . . . what are we going to do with him?"

"Here. Help me drag him to the back room."

We lifted him up and laid him down on the couch.

We looked at each other in the close, humid, mosquito-infested room. Suddenly, providentially almost, the air-conditioning kicked on. "I've been trying to get it to work all day," I whispered.

"Does this mean—"

"Yes! Soon it will cool enough to—"

She kissed me on the lips. By morning I had "arrived" in America several delicious times, and Mary was telephoning the hotel in Ban Kraduk so she could get her things moved into my father's house.

The next morning, over dinner, I tried to explain it all to my elders. On the one hand there was this *farang* woman sitting on the floor, clumsily rolling rice balls with one hand and attempting to address my mothers as *khun mae*, much to their discomfiture; on the other there was the mystery of my brother, who was now confined to his room and refused to eat anything with any chilies in it.

"It's your weird Western ways," my grandmother said, eyeing my latest conquest critically. "No chilies indeed! He'll be demanding hamburgers next."

"It's nothing to do with Western ways," I said.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"It's a *manus tang dao*," Mary said, proudly displaying her latest lexical gem, "and it's trying to get a message to America, and there's some kind of artifact in the ruins that they need, and they travel by some kind of psychic transference—"

"You Americans are crazy!" my grandmother said, spitting out her betelnut so she could take a few mouthfuls of curried fish. "Any fool can see the boy's possessed. I remember my great-uncle had fits like this when he promised a donation of five hundred baht to the Sacred Pillar of the City and then reneged on his offer. My parents had to pay off the Brahmins—with interest! —before the curse was lifted. Oh, my karma, my karma!"

"Shouldn't we call in some scientists, or something? A psychiatrist?" Mary said.

"Nothing of the sort!" said my grandmother. "If we can't take care of this in the home, we'll not take care of it at all. No one's going to say my grandson is crazy. Possessed, maybe . . . everyone can sympathize with that . . . but crazy, never! The family honor is at stake."

"Well, what should we do?" I said helplessly. As the junior member of the family, I had no say in the matter at all. I was annoyed at Mary for mentioning psychiatrists, but I reminded myself that she was, after all, a barbarian, even though she could speak a human tongue after a fashion.

"We'll wait," grandmother said, "and see whether your father's penance will do the trick. If not . . . well, our stars are bad, that's all."

* * *

During the weeks to come, my brother became increasingly odd. He would enter the house without even removing his sandals, let alone washing his feet. When my Uncle Eed came to dinner one night, my brother actually pointed his left foot at our honored uncle's head. I would be most surprised if Uncle Eed ever came to dinner again after such unforgivable rudeness. I was forced to go into town every evening to dub the movies, which I did in so lackluster a manner that our usual audience began walking the two hours to Ban Kraduk for their entertainment. My heart sank when a passing visitor to the shop told me that the Ban Kraduk cinema had actually installed a projection sound-system and could show talkies . . . not only the foreign films, with sound and subtitles, but the new domestic talkies . . . so you could actually find out what great actors like Mitr and Petchara sounded like! I knew we'd never compete with that. I knew the days of live movie dubbing were numbered. Maybe I could go to Bangkok and get a job with Channel Seven, dubbing *Leave it to Beaver* and *Charlie's Angels*. But Bangkok was just about as distant as another galaxy, and I could imagine the fun those city people would have with my hick northern accent.

One night about two weeks later, Mary and I were awakened by my brother, moaning from the mosquito net next to ours. I went across.

"Oh, there you are," Phii Lek said. "I've been trying to attract your attention for hours."

"I was busy," I said, and my brother leered knowingly. "Are you all right? Are you recovered?"

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Not exactly," he said. "But I'm, well, off-duty. The alien'll come back any minute, though, so I can't talk long." He paused. "Maybe that girlfriend of yours should hear this," he said. At that moment Mary crept in beside us, and we crouched together under the netting. The electric fan made the nets billow like ghosts.

"You have to take me to that archaeological dig of yours," he said. "There's an artifact . . . it's got some kind of encoded information . . . you have to take it back to Professor Ubermuth at UCLA—"

"I've heard of him!" Mary whispered. "He's in a loony bin. Apparently he became convinced he was an extraterre—oh, Jesus!" she said in English.

"He *is* one," Phii Lek said. "So am I. There are hundreds of us on this planet. But my controlling alien's resting right now. Look, Ai Noi, I want you to go down to the kitchen and get me as many chili peppers as you can find. On the *manus tang dao*'s home planet the food is about as bland as rice soup."

I hurried to obey. When I got back, he wolfed down the peppers until he started weeping from the influx of spiciness. Suspiciously I said, "If you're really an alien, what about spaceships?"

"Spaceships . . . we do have them, but they are drones, taking millennia to reach the center of the galaxy. We ourselves travel by tachyon psychic transference. But the device is being sent by drone."

"Device?"

"From the excavation! Haven't you been listening? It's got to be dug up and secretly taken to America and . . . I'm not sure what or why, but I get the feeling there's danger if we don't make our rendezvous. Something to do with upsetting the tachyon fields."

"I see," I said, humoring him.

"You know what I look like on the home planet, up there? I look like a giant *mangdaa*."

"What's that?" said Mary.

"It's sort of a giant cockroach," I said. "We use its wings to flavor some kinds of curry."

"Yech!" she squealed. "Eating insects. Gross!"

"What do you mean? You've been enjoying it all week, and you've never complained about eating insects," I said. She started to turn slightly bluish. A *farang*'s complexion, when he or she is about to be sick, is one of the few truly indescribable hues on the face of this earth.

"Help me . . ." Phii Lek said. "The sooner this artifact is unearthed and loaded onto the drone, the sooner I'll be released from this—oh, no, it's coming back!" Frantically he gobbled down several more chilies. But it was too late. They came right back up again, and he was scampering around the room on all fours and emitting pigeonlike cooing noises.

"Come to think of it," I said, "he *is* acting rather like a cockroach, isn't he?"

A week later our home was invaded by nine monks. My mothers had been cooking all the previous day, and when I came into the main living room they had already been chanting for about an hour, their bass voices droning from behind huge prayer fans. The house was fragrant with jasmine and incense.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

I prostrated myself along with the other members of the family. My brother was there too, wriggling around on his belly; his hands were tied up with a sacred rope which ran all the way around the house and through the folded palms of each of the monks. Among them was my father, who looked rather self-conscious and didn't seem to know all the words of the chants yet . . . now and then he seemed to be opening his mouth at random, like a goldfish.

"This isn't going to work," I whispered to my grandmother, who was kneeling in the *phraphrieb* position with her palms folded, her face frozen in an expression of beatific piety. "Mary and I have found out what the problem is, and it's not possession."

"*Buddhang sarnang gacchami,*" the monks intoned in unison.

"What are they talking about?" Mary said. She was properly prostrate, but seemed distracted. She was probably uncomfortable without her trusty notebook.

"I haven't the faintest idea. It's all in Pali or Sanskrit or something," I said.

"*Namodasa phakhavato arahato—*" the monks continued inexorably.

At length they laid their prayer fans down and the chief *luangphoh* doused a spray of twigs in a silver dipper of lustral water and began to sprinkle Phii Lek liberally.

"It's got to be over soon," I said to Mary. "It's getting toward noon, and you know monks are not allowed to eat after twelve o'clock."

As the odor of incense wafted over me and the chanting continued, I fell into a sort of trance. These were familiar feelings, sacred feelings. Maybe my brother *was* in the grip of some supernatural force that could be driven out by the proper application of Buddha, Dharma and Sangkha. However, as the *luangphoh* became ever more frantic, waving the twigs energetically over my writhing brother to no avail, I began to lose hope.

Presently the monks took a break for their one meal of the day, and we took turns presenting them with trays of delicacies. After securing my brother carefully to the wall with the sacred twine, I went to the kitchen, where my grandmother was grinding fresh betelnut with a mortar and pestle. To my surprise, my father was there too. It was rather a shock to see him bald and wearing a saffron robe, when I was so used to seeing him barechested with a *phakhoma* loosely wrapped about his loins, and with a whiskey bottle rather than a begging bowl in his arms. I did not know whether to treat him as father or monk. To be on the safe side, I fell on my knees and placed my folded palms reverently at his feet.

My father was complaining animatedly to my grandmother in a weird mixture of normal talk and priestly talk. Sometimes he'd remember to refer to himself as *atma*, but at other times he'd speak like anyone off the street. He was saying, "But mother, *atma* is miserable, they only feed you once a day, and I'm hornier than ever! It's obviously not going to work, so why don't I just come home?"

My grandmother continued to pound vigorously at her betelnut.

"Anyway, *atma* thinks that it's time

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

for more serious measures. I mean, calling in a professional exorcist."

At this, my grandmother looked up. "Perhaps you're right, holy one," she said. I could see that it galled her to have to address her wayward son-in-law in terms of such respect. "But can we afford it?"

"Phra Boddhisatphalo, *atma*'s guru, is an astrologer on the side, and he says that the stars for the movie theater are exceptionally bad. Well, *atma* was thinking, why not perform an act of merit while simultaneously ridding ourselves of a potential financial liability? I say sell out the half-share of the cinema and use the proceeds to hire a really competent exorcist. Besides," he added slyly, "with the rest of the cash I could probably obtain me one of those nieces of yours, the ones whose beauty your daughters are always bragging about."

"You despicable cad," my grandmother began, and then added, "holy one," to be on the safe side of the karmic balance.

"Honored father and grandmother," I ventured, "have you not considered the notion that Phii Lek's body might indeed be inhabited by an extraterrestrial being?"

"I fail to see the difference," my father said, "between a being from another planet and one from another spiritual plane. It is purely a matter of attitude. You and your brother, whose wits have been addled by exposure to too many American movies, think in terms of visitations from the stars; your grandmother and I, being older and wiser, know that 'alien' is merely another word for spirit. Earthly or unearthly, we are all spokes in the wheel of karma, no? Exorcism ought to work on both."

I didn't like my father's new approach at all; I thought his drunkenness far more palatable than his piety. But of course this would have been an unconscionably disrespectful thing to say, so I merely *wai*-ed in obeisance and waited for the ordeal to end.

My grandmother said, "Well, son-in-law, I can see a certain progress in you after all." My father turned around and winked at me. "Very well," she said, sighing heavily, "perhaps your mentor can find us a decent exorcist. But none of those foreigners, mind you," she added pointedly as Mary entered the kitchen to fetch another tray of comestibles for the monks' feast.

The interview with the spirit doctor was set for the following week. By that time the wonder of my brother's possession had attracted tourists from a radius of some ten kilometers; his performances were so spectactular as to outdraw even the talking cinema in Ban Kraduk.

It turned out to be a Brahmin, tall, dark, white-robed, with a long white beard that trailed all the way down to the floor. He wore a necklace of bones—they looked suspiciously human—and several flower wreaths over his uncut, wispy hair; moreover he had an elaborate third eye painted in the middle of his forehead.

"*Narayana, Narayana,*" he said, with the portentousness of a paunchy deva in one of those Indian historical movies. This, I realized, was a sham to impress the credulous populace, who were swarming around the stilts of our

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

house. One or two children were peering from behind the horns of waterbuffaloes, and one was even peeping from a huge rainwater jar. The Brahmin had an accolyte just for the purpose of removing his sandals and splashing his feet from the foot-washing trough, an occupation of such ignominy that I was surprised even a boy would stoop to it. He surveyed my family (which had been suddenly expanded by visiting cousins, aunts, uncles, and several other grandmothers junior to my own) and inquired haughtily, "And which of you is the possessed one?"

"He can't even tell?" my grandmother whispered to me. Then she pointed at Phii Lek, who was crawling around the front porch moaning "tachyon, tachyon."

"Ah," said the exorcist. "A classic case of possession by a *phii krasue*. Dire measures are indicated, I'm afraid."

At the mention of the dreaded *phii krasue*, the entire family recoiled as a single entity. For the *phii krasue* is, as everyone knows, a spirit who looks like a normal enough creature in the daytime, but at night detaches its head from its body and, dragging its entrails behind it, propels itself forward by its tongue. It also lives on human excrement. It is, in short, one of the most loathsome and feared of spirits. The idea that we might have been harboring one in our very house sent chills of terror through me.

Presently I heard dissenting voices. "But a *phii krasue* can't act this way in the daytime!" one said. "Anyway, where's the trail of guts?" said another. "This fellow's obviously a quack . . . never trust a Brahmin exorcist, I tell you." "Well, let's give him the benefit. See if he comes up with anything."

The Brahmin spirit doctor took a good look at us, clearly appraising our finances. "Can he be cured?" my Elder Mother asked him.

"Given your very secure monetary standing," the Brahmin said, "I see no reason why not. You can take him inside now; I shall discuss the—ah, your merit-making donation—with the head of the household."

My grandmother came forward, her palms uplifted in supplication. "Fetch him a drink," she muttered to my mothers.

My mother said, "Does the *than mo phii* want a glass of water? Or would he prefer Coca-Cola?"

"A glass of Mekong whiskey," said the spirit doctor firmly. "Better yet, bring the whole bottle. We'll probably be haggling all night."

Since Phii Lek was no longer the center of attention, Mary and I obeyed the spirit doctor and brought him inside. He chose that moment to snap back into a state of relative sanity. We knew he had come to because he immediately began demanding chili peppers.

"All right," he said at last. "I've been authorized to tell you a few more things, since it seems to be the only hope."

"What about that monstrous charlatan out there?" Mary said. "He's only going to delay your plans, isn't he?"

"Not necessarily. I want you to insist that he perform the exorcism *at* the archaelogical dig. Once there, I'll be able to home in on the device and get rid of the giant cockroach at the same time.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

You know, that exorcist wasn't far wrong when he said I'd been possessed by a *phii krasue*. Would you be interested in knowing what my alien overlords like for dinner?"

"I take it they're scavengers?" Mary said.

"Exactly," said my brother. "But no more of this excremental subject. You have to convince that exorcist of yours. Unless the device is returned, there will be awful consequences. You see, the aliens were here once before, about eight hundred years ago. They planted a number of these devices as . . . well, tachyon calibration beacons. Well, this one is going dangerously out of synch, and some of the aliens aren't ending up in the bodies they were destined for. I mean, this psychic transference business is expensive, and the military ruler of nine star systems doesn't want to get thrust into the body of a leprous janitor from Milwaukee. That is precisely what happened last week, and the diplomatic consequences happen to be rippling through the entire galaxy at this very minute. Anyway, if the beacon isn't sent back post-haste for deactivation, guess who gets it?"

"You?" I said.

"Worse. They call it a preventative measure. They randomize the solar system."

"I think that's a euphemism for—" Mary began.

"That's right, Beloved Younger Siblings! No more Planet Earth."

"Can they really do that?" I said.

"They do it all the time." My brother reverted for a moment to cockroachlike behavior, then jerked back into a human pose with great effort. "They might not, though. All the xenobiologists, primitive cult fetishists, and so on are up in arms. So it might happen today . . . it might happen in a couple of years . . . it might never happen. Who knows? But galactic central thinks that no world, no matter how puny or insignificant, should be randomized without due process. But . . . I don't think we should risk it, do you?"

"Maybe not," I said. The theory that my brother had contracted one of those American mental diseases, like schizophrenia, was becoming more and more attractive to me. But I had to do what he said. To be on the safe side.

Mary and I left Phii Lek and went out to the porch where the spirit doctor had consumed half the whiskey and they had lit the anti-mosquito tapers, whose smoke perfumed the dense night air.

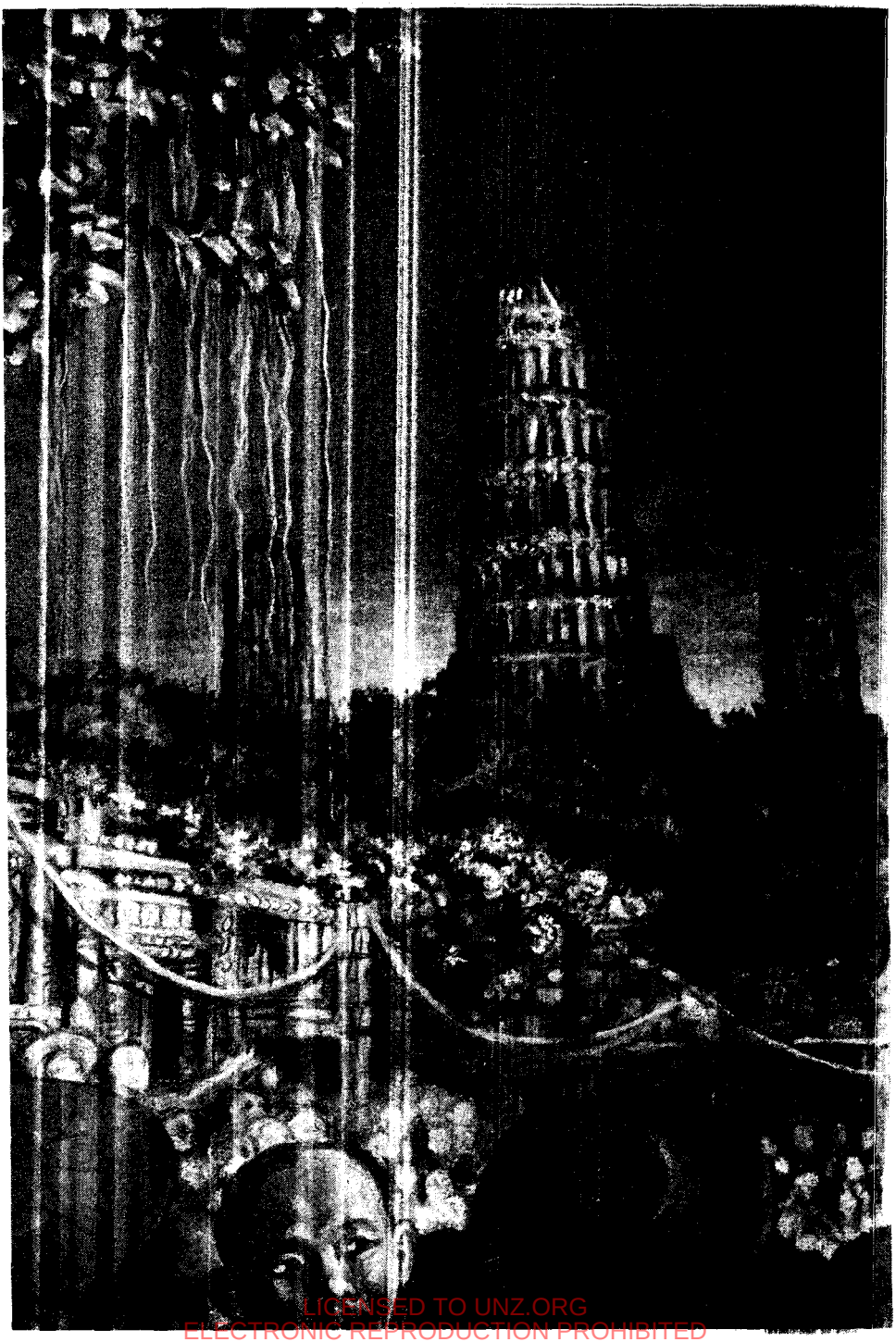
"Excuse me, honored grandmother," I said, trying to sound as unassuming as I could, "but Phii Lek says he wants the exorcism done at Mary's archaeological dig."

"Ha!" the exorcist said. "One must always do the opposite of what a possessed person says, for the evil spirit in him strives always to delude us!" His sentiments were expressed with such resounding ferocity that there was a burst of applause from the crowd downstairs. "Besides," he added, "there's probably a whole army of *phii krasue* out there, just waiting to swallow us up. It's a trap, I tell you! This possession is merely the vanguard of a wholesale demonic invasion!"

I looked despairingly at Mary. "Now what'll we do?" I said. "Sit around waiting for the Earth to disappear?"

It was Mary who came to the res-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

cue . . . and I realized how much she had absorbed by quietly observing us and taking all those notes. She said, speaking in a Thai far more heavily accented than she normally used, "But please, honored spirit doctor, the field study group would be most interested in seeing a real live exorcism!"

The spirit doctor looked decidedly uncertain at being addressed in Thai by a *farang*. I could tell the questions racing through his mind: what status should the woman be accorded? She wasn't related to any of these people, nor was her social position immediately obvious. How could he respond without accidentally using the wrong pronoun, and giving her too much or little status—and perhaps rendering himself the laughingstock of these potential clients?

Taking advantage of his confusion, Mary pursued relentlessly. "Or does the honored spirit doctor perhaps *klua phii?*"

"Of course I'm not afraid of spirits!" the exorcist said.

"Then why would a few extra ones bother the honored spirit doctor?" Mary contrived to speak in so unprepossessing an accent that it was impossible to tell whether her polite words were ingenuous or insulting.

"Bah!" said the spirit doctor. "A few *phii krasue* are nothing. It's just a matter of convenience, that's all—"

"I'm sure that the foundation that's sponsoring our field research here would be more than happy to make a small donation toward ameliorating the inconvenience—"

"Since you put it that way—" the exorcist said, defeated.

"Hmpf!" my grandmother said, triumphantly yanking the half-bottle of whiskey away and sending my mother back to the kitchen with it. "These *farangs* might be some use after all. They're as ugly as elephants, of course—and albino elephants at that—but who knows? One day their race may yet amount to something."

The whole street opera of an exorcism was in full swing by the time my brother, Mary, and I parked her official Landrover about a half hour's walk away from the site. It had taken a week to make the preparations, with my brother's moments of lucidity getting briefer and his eschatological claims wilder each time.

By the time we had trudged through fields of young rice, squishing knee-deep in mud, several hundred people had gathered to watch. A good hundred or so were relatives of mine. Mary introduced me to some colleagues of hers, professors and suchlike, and they eyed me with curiosity as I fumbled around in their intractable language.

Four broken pagodas were silhouetted in the sunset. A waterbuffalo nuzzled at the pediment of an enormous stone Buddha, to whom I instinctively raised my palms in respect. Here and there, erupting from the brilliant green of the fields of young rice, were fragments of fortifications and walls topped with complex friezes that depicted grim, barbaric gods and garlanded, singing *apsaras*. A row of trunkless stucco elephants guarded a gateway to another paddy field.

Every part of the ruined city had been girded round with a *saisin*, a sacred rope that had been strung up along the walls and along the stumps of the elephant

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

trunks and through the stone portals and finally into the folded palms of the spirit doctor himself, who sat, in the lotus position, on a woven rush mat, surrounded by a cloud of incense.

"You're late," he said angrily as we hastened to seat ourselves within the protected circle. "Get inside, inside. Or do you want to be swallowed up by spirits?"

If I had thought Phii Lek's actions bizarre before, his performance now shifted into an even more hyperbolic gear. He groaned. He danced about, his body coiling and coiling like a serpent.

I heard my grandmother cry out, "*Ui ta then!* Nuns dropping into the basement!" It was the strongest language I'd ever heard her use.

Mary clutched my hand. Some of my relatives stared disapprovingly at the impropriety, but I decided that they were just jealous.

"And now we'll see which it is to be," Mary said. "Science fiction or fantasy."

"He's mumbling himself into a trance now," I said, pointing to the exorcist, who had closed his eyes and from whose lips a strange buzzing issued.

"Are you sure he's not snoring?" one of my mothers said maliciously.

"What tranquillity! What perfect *samadhi*!" my other mother said admiringly, for the spirit doctor hadn't moved a muscle in some ten minutes.

Phii Lek's contortions became positively unnerving. He darted about the sacred circle, now and then flapping his arms as though to fly. Suddenly a bellow—like the cry of an angry waterbuffalo—burst from his lips. He flapped again and again—and then rose into the air!

"Be still, I command thee!" the exorcist's voice thundered, and he waved a rattle at my levitating brother and made mysterious passes. "I tell thee, be still!"

A ray of light shot upward from the earth, dazzingly bright. The pagodas were lit up eerily. The ground opened up under Phii Lek as he hovered. There he was, brilliantly lit up in the pillar of radiance, with an iridescent aura around him whose outlines vaguely resembled an enormous cockroach. . . .

The crowd was going wild now. They clamored, they cheered; some of the children were disobeying the sacred cord and having to be restrained by their elders. My brother was sitting, in lotus position, in the middle of the air with his palms folded, looking just like a postcard of the Emerald Buddha in Bangkok.

The flaming apparition that had been my brother descended into the pit. We all rushed to the edge. The light from the abyss burned our eyes; we were blinded. Mary took advantage of the confusion to embrace me tightly; I was too overwhelmed to castigate her.

We waited.

The earth rumbled.

At last a figure crawled out. He was covered in mud and filth. He was clutching something under his arm . . . something very much like a Ming spittoon.

"Phii Lek!" I cried out, overcome with relief that he was still alive.

"The tachyon calibrator—" he gasped, holding aloft the spittoon and

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

waving it dramatically in the air. "You must get it to—"

He fainted, still clasping the alien device firmly to his bosom.

The light shifted . . . the ghostly, rainbow-fringed giant cockroach seemed to drift slowly across the field, toward the unmoving figure of the exorcist . . . it danced grotesquely above his head, and he began to twitch and foam at the mouth. . . .

"I'll be dead!" my grandmother shouted. "The spirit is transferring itself into the body of the exorcist!"

In a moment the exorcist too fainted, and the sacred cord fell from his hands. The circle was broken. Whatever was done was done.

I rushed to the side of my brother, still lying prone by the side of the abyss.

"Wake up!" I said, shaking him. "Please wake up!"

He got up and grinned. Applause broke out. The exorcist, too, seemed to be recovering from his ordeal.

"And now," my brother said, holding out the alien artifact, "I can return this thing to the person who was sent to fetch it."

A small, white, palpitating hand was stretched forward to receive it. I turned to see who it was. "Oh, no," I said softly.

For it was Mary who had taken the artifact . . . and Mary who was now gyrating about the paddy field in a most unfeminine, most cockroachlike manner.

Later that night, Phii Lek and I sat on the floor of our room, waiting for Mary to snap out of her extraterrestrial seizure so we could find out what had happened.

Toward dawn the alien gave her her first break. "I can talk now," she said, suddenly, calmly.

"Do you need chilies?" I said.

"I think a good hamburger would be more my style," she said.

"We can probably fake it," my brother said, "if you don't mind having it on rice instead of a bun."

"Well," she said, when my brother had finished clattering about the kitchen fixing this unorthodox meal, and she was sitting cross-legged on my bedding munching furiously. "I suppose I should tell you what I'm allowed to tell you."

"Take your time," I said, not meaning it.

"Okay. Well, as you know, the exorcist is a total fake, a charlatan, a mountebank. But he does enter a passable state of *samadhi*, and apparently this was close enough to the psychic null state necessary for psychic transference to enable a mindswap to occur over a short distance. His blank mind was a sort of catalyst, if you will, through which, under the influence of the tachyon calibrator, I could leave Phii Lek's mind and enter Mary's."

"So you'll be taking the spittoon back to America?" I said.

"Right on schedule. And it's not a spittoon. That happens to be a very clever disguise."

"So. . . ." It suddenly occurred to me that she would soon be leaving. I was irritated at that. I didn't know why. I should have been pleased, because, after all, I had essentially traded her for my brother, and family always comes first.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Look," she said, noticing my unease, "do you think . . . maybe . . . one last time?" She caressed my arm.

"But you're a giant cockroach!" I said.

She kissed me.

"You've been bragging to your friends all month about 'arriving' in America," she said. "How'd you like to 'arrive' on another planet?"

In the middle of the act I became aware that someone else was there with us. I mean, I was used to the way Mary moved, the delicious abandon with which she made her whole body shudder. I thought, "The alien's here too! Well, I'm really going to show it how a Thai can drive. Here we go!"

The next morning, I said, "How was it?"

She said, "It was a fascinating activity, but frankly I prefer mitosis."

Fiddling for waterbuffaloes.

In a day or so I saw her off; I went back to the antique store; I found my grandmother hard at work in her antique faking studio. A perfect Ming spittoon lay beside her where she squatted. She saw me, spat out her betelnut, and motioned me to sit.

"Why, grandmother," I said, "That's a perfect copy of whatever it was the alien took to America."

"Look again, my grandson," she said, and chuckled to herself as she rocked back and forth kneading clay.

I picked it up. The morning light shone on it through the window. I had an inkling that . . . no. Surely not. "You didn't!" I said.

She didn't answer.

"Grandmother—"

No answer.

"But the solar system is at stake!" I blurted out. "If they find out that they've got the wrong tachyon calibrator—"

"Maybe, maybe not," said my grandmother. "The way I think is this: it's obviously very important to someone, and anything that valuable is worth faking. You say these interstellar diplomats will be arguing the question for years, perhaps. Well, as the years go by, the price will undoubtedly go up."

"But *khun yaai*, how can you possibly play games with the destiny of the entire human race like this?"

"Oh, come, come. I'm just an old woman looking out for her family. The movie house has been sold, and we've lost maybe 50,000 baht on the exorcism and the feast. Besides, your father will insist on another wife, I'm afraid, and after all this brouhaha I can't blame him. We'll be out 100,000 baht by the time we're through. I have a perfect right to some kind of recompense. Hopefully, by the time they come looking for this thing, we'll be able to get enough for it to open a whole antique factory . . . who knows, move to Bangkok . . . buy up Channel Seven so your brother can dub movies to his heart's content."

"But couldn't the alien tell?" I said.

"Of course not. How many experts on disguised tachyon calibrators do you think there are, anyway?" My grandmother paused to turn the electric fan so that it blew exclusively on herself. The air-conditioning, as usual, was off. "Anyway, *manus tang dao* are only another kind of foreigner, and anyone

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

can tell you that all foreigners are suckers."

I heard the bell ring in the front.

"Go on!" she said. "There's a customer!"

"But what if—" I got up with some trepidation. At the partition I hesitated.

"Courage!" she whispered. "Be a *luk phuchai!*"

I remembered that I had the family honor to think of. Boldly, I marched out to meet the next customer. ■

ON GAMING

(continued from page 82)

to your liking, some of the better ones include: *BattleTech* by FASA Corporation, an exciting game of future combat where giant robots controlled by human pilots fight for pay, prestige, and survival; *Star Fleet Battles* (March 84) by Task Force Games, a detailed game of tactical starship combat involving the Federation, Klingons, Romulans, and other assorted aliens; *Dune* (Jan. 86) by The Avalon Hill Game Company, a strategy-intrigue game based on the novels by Frank Herbert; *Hammer's Slammers* (July 85), *The Company War* (April 84), and *The Forever War* (Feb. 84) by Mayfair Games, all fun tactical games based on the famous SF novels by David Drake, C.J. Cherryh, and Joe Haldeman, respectively; and *Web and Starship* by West End Games, an award-winning strategy game that pits two aggressive alien races on a collision course, with Earth between them.

Two great card games, especially for a gamer with a warped sense of humor (like me) are: *Illuminati* by Steve Jackson Games, which proves that everyone really is part of a conspiracy; and *Nuclear War* by Blade/Flying Buffalo, which, along with its sequel, *Nuclear Escalation*, is the perfect parlor game for your anti-nuke friends ("Say, do you have 'change' for 20 million people?").

I also want to mention an unusual, fast-playing fantasy series, which can become addictive. *Lost Worlds* by Nova Game Designs is a series of booklets, one per fantasy character, which you use to fight against another player's character/booklet. Matching a unicorn against an amazon, or a ninja against a fireball-throwing wizard are just two of the many combinations a fertile mind can attempt.

If opponents are hard to find in your locality, you might want to try play-by-mail (pbm) games. An extensive survey of the pbm companies and their games appeared in the 1985 February and March issues. Or, if you have a personal computer, I recommend the SF-novels-translated-into-computer-games by Telarium (Feb. 86), any Infocom game, including *Hitchhiker's Guide to the Galaxy* (Nov. 85), and any of the Microprose designs.

Finally, if you're new at these types of games, or if you want to introduce someone to them, take a look at the list of beginner's games in my August, 1985 column.

I promised a free gift to all my readers. If you send your name and address, I'll mail you a copy of a special edition of the new game magazine I now work for. It's free, so send your letter or postcard to: Dana Lombardy, *Game News*, 1010 Vermont Ave. N.W., Suite 910, Washington, DC 20005.

Goodbye, and good gaming! ■

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

the reference library

By Tom Easton

The Invaders Plan, L. Ron Hubbard, Bridge Publications, $18.95, ? pp.

A Personal Demon, David Bischoff, Rich Brown, and Linda Richardson, Signet, $2.95, 255 pp.

Eclipse, John Shirley, Bluejay, $8.95, 330 pp.

Threshold, David R. Palmer, Bantam, $2.95, 288 pp.

Sentenced to Prism, Alan Dean Foster, Ballantine/Del Rey, $3.50, 288 pp.

The Cybernetic Samurai, Victor Milan, Arbor House, $14.95, 298 pp.

In the Face of My Enemy, Joseph H. Delaney, Baen Books, $2.95, 384 pp.

Starquake, Robert L. Forward, Ballantine/Del Rey, $14.95, 336 pp.

The World in Amber, A. Orr, Bluejay, $14.95, 214 pp.

Universe 15, *Terry Carr, ed.*, Doubleday, $12.95, 181 pp.

An Edge in My Voice, Harlan Ellison, Donning, $9.95, 548 + xii pp.

Arthur C. Clarke's World of Strange Powers, John Fairley and Simon Welfare, G. P. Putnam's Sons, $19.95, 248 pp.

Spacefarer's of the '80s and '90s, Alcestis R. Oberg, Columbia University Press, $24.95, 238 + xvi pp.

I would like to offer you a few modest thoughts on "What Is Wrong with Science Fiction?" and "What Is the Difference Between SF and Sci-Fi?" The questions are worth asking, for, despite all the attention they have drawn over the years, no one has yet cured SF of its fundamental ailment: sci-fi.

SF is what the fans call science fiction. Sci-fi is the Hollywood term, which fans say applies only to the most mindless of science fiction, the films and stories that have made action, violence, intrigue, and quests into clichés of the genre. That is, sci-fi is geared to the lowest common denominator of literary taste, the perpetual twelve-year-old who is also the target of TV sitcoms and game-shows. Sci-fi is commercial

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

SF, and it is taking over the SF market. It is what the publishers seek, for it sells.

Sci-fi is precisely what is wrong with SF. The commercial version of our favorite literature has been around since before Gernsback, and I submit that its existence is why SF was for so long relegated to its traditional ghetto. True SF is more thoughtful fiction, in the mode of Wells, Le Guin, Clarke, and many others, and it has been around just as long, or even longer. But it has always been less visible, publishers seem to be less fond of it, and it is swamped today by a vast flood of sci-fi tripe.

Sure, that tripe can be fun. I enjoy some of it myself. But most of it is garbage, and it is endless frustration to those writers and editors who set their sights a little higher that it sells so well. It is also endless agony to reviewers who have any sense of what SF can be at its best. You remember Spider Robinson's fulminations in these pages. You recall my own, when I have chosen to stomp on a particularly awful example.

And you may be grinning in anticipation, thinking: Easton's working up to another stinker. If so, you're right. If you want to embark on ten volumes of wheel-spinning, improbable action and soggy cardboard characters, if you want to be a literary masochist, then go right out and buy a copy of L. Ron Hubbard's latest sci-fi epic. It's **The Invaders Plan,** it's volume one of "The biggest science fiction decalogy ever written," and it's even worse than *Battlefield Earth*. It is so bad that I looked in vain for any sign that Hubbard intended it as a spoof of the field, but the signs all say he is serious. And it is so trite, so commercial, that it will surely be a best-seller, pushed by the kind of publicity campaign only a writer as rich as Hubbard, with a publishing house all his own, can afford to mount.

Hubbard gives us the expansionist Voltarian Empire, covering over a hundred worlds and moving slowly, according to a plan of conquest devised by the Empire's founders eons ago, to conquer the entire galaxy. Earth is scheduled for absorption centuries hence, but a routine patrol reveals that the Earthlings are ruining the real estate with pollution. The Apparatus, a government bureau staffed by thugs and run by Lombar Hisst, an egomaniac who makes Hitler look naive, wangles the assignment of teaching the Earthlings how to run a clean civilization, at least until the scheduled invasion date. However, Hisst has his own plans for Earth: it will be his base when he attempts a coup, it is already his source of corrupting drugs, and he insists that the salvage mission fail. Accordingly, he puts the mission in the hands of the inept Soltan Gris, ordering him to see that it fails.

However, Gris will be only the handler of salvage-expert Jettero Heller, a certified hero beloved of peers and public, a man who can inspire loyalty and clean living even in the thugs of the Apparatus (not in Hisst or Gris, but then no hero can be perfect). Heller knows all the tricks. He can repair a starship, pick a pocket, and bribe a headwaiter. And he means to succeed. *Plan* is thus largely the tale of Gris's frustrations as Heller prepares for the mission, which future volumes will take, step by step, to what seems a predictable defeat of evil and its minions.

If Hubbard's decalogy has any charm at all, it is in its focus on evil. Heller, ostensibly a villain but clearly the now and future hero, identifiable with Earth (whose people in fact seem to be descended from refugees from Heller's home world), is very much in the back-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ground. He is a natural force with whom Gris must cope as best he can.

However, this small bit of charm is not enough. Avoid the book and its sequels like the plague.

If it were science fiction at all, it would be sci-fi. It's that trivial, that commercial. Or would it? It avoids most clichés, and it's a good deal more fun. But at any rate, it's fantasy. It's **A Personal Demon,** by David Bischoff, Rich Brown, and Linda Richardson, a novel assembled from a series of stories in the old *Fantastic* by the pseudonymous Michael F. X. Milhaus.

Professor Willis Baxter, an expert on demonology, is just another schnook until the night he decides to enliven a boring faculty party by summoning the last available demon, a nubile demon-human hybrid named Anathae. Now, Ana's a nice girl, with a very healthy libido (the demon side of her, don't you know?), and she sees a number of concealed virtues in Willis. She resolves to help him unleash his hidden self, and the resulting encounters with the dean, a porcine governor, the former girlfriend, and a crooked evangelist are often hilarious. Yet there is a serious side as well, for both Willis and Ana grow in the course of the book, and their growth is not done at the end. The problems with the book are that the authors' description of Hell lacks a certain consistency—is it a place of torment? or just another dimension, where human souls, once laundered, make attractive wallpaper?—and that, either way, Ana is just *not* devilish enough.

John Shirley impressed us awhile ago with *City Come A'Walkin*. Now he gives us the *A Song Called Youth* trilogy, beginning with **Eclipse.** In some ways, this book is less impressive—it is less feverishly original, less antic, less exciting. But in others, it is far more impressive, for here Shirley shows a more mature, more thoughtful approach to his subject. He gives us a future war, begun when the Soviets invaded Europe, that eschews strategic nuclear weapons in favor of conventional arms aided by a limited number of tactical nukes. Europe is a wasteland, but people survive.

The rest of the world feels the impact of the war too. There is a space colony blockaded by the Soviets. There is a US still recovering from the depression induced when terrorists exploded a high-altitude nuke and produced an electromagnetic pulse that wiped out the nation's financial records. And there is a private police force, the Second Alliance International Security Corporation (the SAISC, or SA), born from fundamentalist religion and governed by a dream of totalitarian, fascist world domination. Its leaders believe that Hitler was not subtle enough.

Eclipse is a fairly quiet, very gritty tale. It displays a wealth of detail of crumbling Europe, of life in insecure America and on the island Freezone, of future music. There is relatively little high drama, though the climax on the Arc de Triomphe is a triumph of bombastic heroism. The story sets up an ambience of extreme despair by focusing on a few of the people involved in the New Resistance. The NR is aware of the SA's schemes, and it does what it can to make its operations difficult. However, the SA is the darling of many hard-pressed governments, who invite it in to handle domestic security. The United Nations even invites it to take over the battleground of Europe in the absence of functioning governments, thus releasing NATO forces to fight the Soviets. When it moves in, it cultivates

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

racism, interning and executing Jews and non-European immigrants.

The resistance seems hopeless, especially when Shirley reveals that the SA can use neurotransmitters to treat the brain like a computer, querying it directly to interrogate and extracting and implanting information at will. But the NR has its own resources, and there are signs that some hope remains. The book's cover blurb refers to "the opening of new frontiers," which may mean Shirley plans to have the NR flee Earth in a starship, but there are no internal clues to such an end. However, I do expect future volumes of the trilogy to save civilization in one way or another from the SA.

In **Threshold,** David R. Palmer says that the Campbellian super-competent hero, that favorite device of SF and sci-fi, is really a pretty unlikely creature. Such people don't just happen. They must be created by someone's meddling. He used that idea in *Emergence,* and now he does it again in a hyperbolically entertaining yarn of superman, ultimate danger, and rationalized supernatural.

Aliens from the center of the galaxy, facing a threat from a living mass of anti-energy that is gobbling up galaxies and heading toward the Milky Way, decide that their technology, based on "mMj'q," is inadequate. They seek a more mechanically minded species to help, they settle on humans, and they begin a breeding program to create the ultimate problem-solver. Forced to act still a generation shy of their goal, they plop their female agent, Megonthalyä (Meg), and her talking cat— a "wWhy'j" and her "fmMl'hr"—on the island hideaway of financial wizard Peter Cory, and recruit him with their need and with promises that he can be a great "wWyhr läaq," though first he must help Meg find a "mMj'q wWn'dt" with which to tap the "pwW'r." He learns from Meg how to change shape, control electron flows, and perform assorted other tricks, and then they're off. At Isis, Meg's home world, Peter faces a series of supreme challenges, navigational and bestial, all arranged for his benefit by Meg's masters, and proves himself capable of topping them all. Eventually, he wins through to Meg's home city and learns the reason why her people have tried their damnedest to quash his spirit. The sequel will presumably pit him against the anti-energy being, "R'gGnrök," and I hope it will be just as entertaining.

The ever-fertile Alan Dean Foster reports from the fringes of the Humanx Commonwealth with **Sentenced to Prism.** Samstead is a world whose conditions have forced its people to develop armored, powered suits for all outdoor activities. Making a virtue of necessity, they have taken to wearing similar suits indoors, even when swimming, even . . . You get the idea. It's a high-tech society that echoes some of the old stories of people wearing their cars.

In this context, Foster shows us the Company, a ruthless outfit dedicated to the exploitation of worlds. The Company has found a strange one this time, Prism, many of whose life forms are based on silicon. They're lovely, jewel-like wonders, and the Company's researchers are greedily studying them to learn their exploitability. But then the research station stops communicating. In secrecy, to keep both competitors and the Commonwealth from learning of the potential bonanza, the Company assigns egotistical trouble-shooter Evan Orgell to investigate, giving him a special super-suit to keep him out of trouble.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

This being a novel, the suit doesn't last long. Orgell finds the station occupied by only the dead, with Prism's beasties busily eating the equipment. One person is missing, though, and he sets off into the countryside to seek her. Before long, Prism disables his supersuit and he is on his fleshy own. Fortunately, he meets a representative of the local sentients, makes friends, and learns the true powers of Prism-type life.

Prism is not Foster at the top of his form. Once the oddities of Prism have been laid out, it's stock adventure and therefore predictable. In addition, he misuses the concept of fractals; these geometrical pecularities have dimensionalities between 1 and 2, or 2 and 3, but that does not mean they verge on the invisible. He also misunderstands his biology, for Orgell's immune system certainly should react against the inorganic artificial organs Prism's natives give him.

Still, Prism's oddities *are* interesting. And it's intriguing to speculate on what Foster will do when he gets around to the tale of Prism's natives in space.

Victor Milan's **The Cybernetic Samurai** is a fairly successful SF thriller. After World War III, the US is a hodgepodge of rival nations and Japan is technological top-dog. And then Dr. Elizabeth O'Neill, scorned by her American colleagues, is rescued from a Colorado refugee camp by maverick Yoshimitsu TeleCommunications and given her head to pursue her theories. Her mission is to develop a true artificial intelligence, and she succeeds. Realizing the potential for mischief of a sentient computer, she decides to inculcate it with the classic Japanese virtues of bushido. The result is Tokugawa, a potent warrior, but one restrained by senses of honor and loyalty.

The idea is charming. So is the execution, for the plot hinges on the growing anger of a government agency at Yoshimitsu, which resists its paternalistic efforts to control Japanese industry and succeeds in a task that has long eluded more compliant firms. The agency encourages another company to mount a military takeover of Yoshimitsu. It does, setting an unfortunate precedent for Japanese business. Yoshimitsu's visionary bossman dies. So does O'Neill. Only Tokugawa is left, to follow loyally the orders of the ne'er-do-well, paranoid heir to the company. With the control he can exert over other computers, he soon brings Yoshimitsu's corporate enemies under his own control, destroys the government agency that did so much damage, and executes the villains. But then the heir orders the death of his sister, Michiko, and . . . What is a good samurai to do?

Tokugawa does not seem to be just a computer. "He" can create himself a body within the world of electronic data. He can create worlds, in fact, and when humans such as O'Neill or Michiko don the special interfacing helmet, he can become their lovers. He is perhaps the best developed character in the book, and the most appealing, not least because of the dilemmas he faces.

Recommended.

Do you recall Joseph Delaney's stories in these pages of Kah-Sih-Omah, a Paleo-Indian reconstructed by Ancient Astronauts, able to control his body utterly, change his shape, and live forever? Those tales related his role in the discovery and taming of matterporting aliens on a distant world. About Kah-Sih's past, they gave us only hints.

Now we have **In the Face of My**

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Enemy, which fills in some of that past, though it remains tantalizing. The book leads off with a map of Kah-Sih's roamings over prehistoric and historic Earth, and the legends indicate a host of dramatic adventures that Delaney totally ignores here. He focuses on the immediate aftermath of his hero's rebuilding, when despite his people's refusal to recognize him as their erstwhile shaman, he remains close by, trying fruitlessly to protect them as they are enslaved by protoAztecs and entering the Native American pantheon, apparently in several guises. Later, he becomes an Icelander, and in a Mediterranean shipwreck he meets a monk who convinces him he should seek the immortal kinship of Christ.

Like many of us, Kah-Sih is preoccupied throughout his journeys with the nature of his mission in life. He finds it after millenia of questing, in space, allied with a godlike intelligence in a way that hints that his history is satisfyingly circular. Yet Kah-Sih and his quest fail to satisfy. He is too preoccupied from the start with existentialist questions that strike me as far too sophisticated for a savage, no matter how thoroughly his body has been redesigned. Like too many who write of ancient peoples, Delaney has put a modern consciousness out of its place and time, and he fails to convince.

Robert L. Forward has a related but simpler problem—anthropomorphism—with **Starquake,** his sequel to *Dragon's Egg*. The cheelah, tiny sentients who abide on the surface of a neutron star, living at a pace a million times that of humans, have been educated to high-tech civilization by human explorers. They have even surpassed their mentors and begun to provide them with knowledge beyond human imagination, though out of respect for human self-determination they have put it all in cypher. Now the humans are about to leave, but a starquake destroys almost all the cheelah. There are only a very few survivors on the ground, and only a few more in space, and they must somehow rebuild their numbers and their civilization.

The humans put off their departure, of course. Their food supplies are dwindling, but cheelah generations pass in mere moments. The real problem arises when human efforts to help mean destroying their own means of escaping the neutron star's gravity. They are doomed, unless and until the cheelah rebuild enough technology to help.

The book's ending is no surprise. Nor, unfortunately, is the story itself. Forward exhausted the novelty of his basic idea with *Dragon's Egg*, and the present catalog of trivia and melodrama is—let's be frank—a bore.

More successful is A. Orr's **The World in Amber,** a fairy tale of the discovery of self. Orr posits a lump of amber in which is imprisoned a world once imagined by a mad child. He does nothing with this conceit except to set his stage, but perhaps he is simply seeking a novel way to justify fantasy. The story centers on a king whose weak and malleable personality has let venal advisors endanger the kingdom, the self-willed queen, and the prince, who would rather be a minstrel. Behind the scenes is a wizard who wishes to set things right before disaster strikes.

We see the wizard's plan in motion when the king awakes one morn in the wilderness, accompanied by a gibing sprite. The efforts of unaided survival then toughen his spirit, and wisdom begins to come. Meanwhile the queen, in the body of a cat, learns of plots and

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

schemes. The prince, wandering in the Isles of the Blest, learns something of his potency. When all once more gather in the palace, they are then much better equipped to begin to undo the damage of past weakness.

The story is far more effective than many longer and more intricate allegories, and it seems well suited for younger readers.

Terry Carr's **Universe 15** is here, folks, and as usual I don't need to say a lot about it. Carr tries to skim the cream, and while he never gets it all, he gets enough to make memorable one book a year, every year. I can't say he gets nothing but cream; some of what he thinks so rich and yellow I find the pale chalkiness of skim milk, but tastes differ.

The best of Carr's picks this time is Harlan Ellison's "Paladin of the Lost Hour," a touching, sympathetic tale of the *real* reason behind the shift from the Julian to the Gregorian calendar. Arthur Jean Cox's "Evergreen" examines whether the power of immortality must corrupt its owners. Avram Davidson's "The Slovo Stove" is a witty study of ethnicity and acculturation. The rest, by Jack McDevitt, Mona A. Clee, Barry Malzberg, Pamela Sargent, Lucius Shepard, Juleen Brantingham, and Kim Stanley Robinson, strike me as lesser items, and Robinson's is seriously flawed—"Mercurial" is a fine tale, set on the art-museum Mercury of *A Memory of Whiteness,* but when Robinson has a character fastened to the railroad tracks with suction cups, he shows us that he doesn't know that Mercury has no atmosphere, even if he does put his characters in spacesuits.

Harlan Ellison's **An Edge in My Voice** collects 61 columns from *Future Life* and *The L.A. Weekly,* and it is, of course, patent Ellison. Raging, fulminating, swearing against the follies of the modern world, this literary *agent provocateur* aims to wake people up, to make them think about the lives and their fellows, and he succeeds.

However, Ellison is not the perfectly clear-eyed observer he seems to claim he is. At least once, when a letter-writer takes him to task for his attack on De Palma's films, he demonstrates that he too wears blinders. The writer made a valid point comparing De Palma's *Blow Out* with *The French Connection,* calling the latter more evil because its characters are more blasé about the villainies around them, despite *Blow Out*'s sadistic antifeminism, and Ellison refused to recognize the point at all.

Still, Ellison remains as remarkable an essayist as he is a short-story writer. If you have any taste for fulminations, if you aren't too comfortable in your sleep, get the book. It's worth the ten bucks.

At first glance, the eyebrows rise. Arthur C. Clarke is *hard* science SF; he is not one for mush-headed supernaturalisms. But here he is, in the title, foreword, and epilogue of **Arthur C. Clarke's World of Strange Powers,** an account of curses, poltergeists, precognition, PK, reincarnation, dowsing, apparitions, and more.

This highly anecdotal book grew from John Fairley's and Simon Welfare's British TV series of the same name. They did the work, and on the evidence of the book they did a good job of it, too. They document the cases —some of them quite convincing—with interviews, media quotes (including the *National Enquirer*), photos, and interpretation, and they aren't entirely mush-brained. Still, I was relieved when I

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

came to Clarke's statement of the book's purpose, to "make the credulous more sceptical, and the sceptical more open-minded," and then to his epilogish ratings of the various mysterious phenomena—he can't make up his mind about PK, but he's convinced of firewalking, pretty sure of curses and apparitions, and pretty down on life after death in any form. He put his name on a frankly commercial undertaking, but he preserved his intellectual integrity.

So go ahead. Put this conversation-piece on your coffee table, and have lots of fun at your next party.

Alcestis R. Oberg, wife of James Oberg, has been a journalist of space ever since, when working for the L-5 society, she attended a conference on space. Now she is Senior Editor (Space) for *Aviation/Space* magazine; she also contributes to *Omni* and *Science Digest*. And she has written her first book, **Spacefarers of the '80s and '90s: The Next Thousand People in Space.**

Spacefarers focuses on the astronauts and their high-flying colleagues, the payload specialists and the military manned spaceflight engineers, with some material on the Soviet cosmonauts. It tells how these people got to be who they are and describes their training, duties, and personalities. It discusses the glories of the space experience, the physiological effects of weightlessness, and the immediate future prospects for new astronauts, not neglecting to tell you where to write for applications to the astronaut program.

I caught a few errors, one a real gaffe involving the sources of vitamin D, but overall the book is ideal for any young person—from 10 to 30—contemplating a career in space. It will encourage many and set them on the right path, though it will also discourage some. Oberg doesn't pussy-foot around when it comes to making the special demands of space for discipline, humility, dedication, and long hours very, very clear. ■

SUBSCRIBER ASSISTANCE

MOVING? We need 6 weeks' notice. Please attach your label to the space below and write in your new address.
QUESTION or PROBLEM? It can be handled faster if we have your label.
IMPORTANT MESSAGE: Time to time the ANALOG mailing list is made available to companies that want to send promotional material offering their products. To do this they must have our approval of the mailing piece itself and of what they are selling. If you prefer not to receive these mailings, please tell us and we will remove your name. Write to the address below.
EXPIRATION DATE: In the upper right hand corner of your mailing label you'll find the date of your last issue—e.g., JAN 86 means your subscription expires with the January 1986 issue.

New address? Put new address below.

Please attach here your ANALOG label from the cover of your most recent issue.

ANALOG SCIENCE FICTION/ SCIENCE FACT BOX 1936 MARION, OH 43305

Name_____

Address_____

City_____ **State**_____ **Zip**_____

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

brass tacks

Dear Stan,

I don't often go into print while my ideas feel half-baked, but this one seems sufficiently important to put into circulation before I get the bugs out of it. It's a cross-connection between two debates which have been going on in *Analog* and elsewhere: the Nuclear Winter question and the Strategic Defense Initiative (SDI).

I first heard of the Nuclear Winter concept at the IBM Heathrow Conference in 1984, in a presentation by Dr. Richard Garwin. One of the major points made was that because no foreseeable nuclear exchange came out below the level needed to initiate the Nuclear Winter, a drastic reduction in the arms stockpiles, to a world total of say 1000 warheads, had to be the aim. The theme of the conference was "Science & Uncertainty," and Dr. Garwin made no secret of the uncertainties in the analysis—but as he said, even if it turned out to be wrong, "a Nuclear Summer won't be much fun either." More to the point—and it's the point you've just made in the August editorial—if even a limited nuclear exchange can wipe out the human race, *all* the human race, then the benefits of having nuclear weapons are not worth the risks.

Realistically, however, we can't uninvent the bomb: hence Dr. Garwin's call to cut back to below Nuclear Winter calculated thresholds. Obviously the uncertainties in such complex calculations are too great to fix the threshold precisely, but we do understand it to be somewhere below 10% of the existing stockpiles. However I noted with surprise in the August issue of *Discover*, pp. 26-28, that the number of warheads in the US arsenal has dropped by 25% and the average yield per warhead is down, too. Those numbers are of course a reflection of confidence in the relia-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

bility and accuracy of the delivery systems, and I'll come back to that point. But let's assume that if the unthinkable happens the Nuclear Winter threshold is then 10% of the stockpile at that time. To put it another way, 90% of the warheads have to be prevented from exploding.

Now let's turn to SDI. Realistically, we agree that 100% protection is unattainable. Optimists say 90% can be achieved and that's a good thing: a great many other people say it can't be done, or won't be anything like that effective, and anyway just trying for it will make things a great deal worse for the reasons given by Geoffrey A. Landis in the June edition of this column (pp. 186-188). Personally I've become an "optimist" in this limited sense since my friend John Braithwaite (the same one quoted in my February *Starseed* article) told me about the mirror systems he's working on at the University of Strathclyde, made public at this year's meeting of the British Association. I'm inclined to think now that a system can be built which will prevent 90% of the missiles launched from exploding.

That's no help if deploying the system is going to make the war more likely. But what I want to point out is that both debates are converging on the percentage of 90% of the stockpile as the number of warheads which *can* and *must* be kept from exploding.

Is this just a numerical coincidence or is it a signpost to the way out of the forest? The key question is going to be whether the West has confidence in the SDI once it's been developed. And the answer is, if we don't have confidence in it, we don't deploy it at all. If we do, then we announce, *in advance,* that we will be cutting back our strike force by a percentage corresponding to the efficacy of the cover. If it's going to give 90% cover we cut back by 90% of our warheads, and we do it under full international supervision.

"But the Soviets will cheat!" is the cry which then goes up, (and I've talked to enough people about this now to know that it *is* the cry which goes up.) Well, so what? We've achieved what the SDI was supposed to be about, which was to shift our emphasis from offense to defense. "Cheating" presumably would consist of saying *they* were going to wind down but not actually doing it, which isn't too different from how things are now. But instead they could start to wind down, and call on us to reduce the SDI coverage accordingly. Let's say they cut their stockpile by 50%, and we reduce the coverage by 50%. Now only 5% of what they originally had can get through, but we still have 10% of our original strike force, so we're in the wrong unless we cut back still further.

And so on down to zero. I know it can't be that easy: if I wrote a novel in which it was that easy, *Analog* would bounce it. But I want to put it on record somewhere in case it is the beginning of the answer.

DUNCAN LUNAN.

Dear Stanley,

I have been a subscriber to *Astounding*, and then *Analog* SF Magazine since 1938 and consider it to be the only worthwhile Science Fiction Magazine. No matter what I will continue to subscribe.

However, since you have become Editor you have cut my enjoyment of Analog *considerably*, undoubtedly without realising it.

I refer to the policy of not publishing the full address of writers of letters in "Brass Tacks." I, (and I am aware of many others) enjoy corresponding and

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

exchanging views with those whose letters you publish, to our mutual satisfaction.

There would, of course, be occasions when it is undesirable to publish addresses and authors can always be found % *Analog*, but this would not be the general rule.

Please revert to the previous policy of publishing addresses so it is possible to exchange ideas and views. If you cannot contact the writer of a letter there is always the suspicion that the letter is only a "Dorothy Dix" and meaning-

BRYAN B. KELAHER.
16 Marlin Court, Palm Beach Gold Coast
Queensland, Australia Q. 4221

I agree that, when possible and the author agrees to it, it's nice to have a full address published right with the letter. (Among other advantages, that makes it easier to contact the writer of a rather old letter which we may no longer have in our files.) However, I also understand and sympathize with the good reasons why a letter writer may not want to have his address published. Let's try this (FUTURE LETTER WRITERS PLEASE TAKE NOTE!): If you want your address published, include it with your name at the end of the letter. If it's there, rather than somewhere else on the page, we'll print it; otherwise, we won't.

Dear Mr. Schmidt:

I am writing to vent my frustration at a small number of authors and publishers who feel it their divine duty to proselytize in favor of Star Wars / High Frontier / SDI.

I have come to recognize this type of hucksterism during my frequent visits to the local bookstore. Usually, the pitch for SDI can be found on or before page ten, saving one the trouble of buying the book. In other cases (such as in a novel that offers a puzzle with an accompanying cash prize) the American nation is saved from Godless communism only by the valiant struggle of patriots who manage to fund SDI by defeating the (Godless communist) opponents of the program. Bo-ring.

I have yet to read a single story that propounds any of the arguments against SDI, to wit: that it is a) ineffective against cruise missiles or pre-delivered warheads; b) another Pentagon-contractor pork-barrel project; c) likely to drive millions into poverty by its sheer expense; and d) less cost-effective than negotiated arms treaties.

Please, guys, treat us SF readers as if we are able to think for ourselves! I, for one, spend too much money on SF paperbacks to have my intelligence insulted.

Stan, I would be interested to hear your views on this.

MICHAEL STONE
Topanga, CA

I can't speak for book publishers, but what becomes an Analog *story is far less dependent on what views it expounds (or doesn't) than on how well it works as a story—which includes, among many other things, how well it makes its case for any ideas it does use. Anyone who isn't seeing stories promoting a viewpoint he favors is welcome to try writing one—but remember, it will be judged first as a story.*

Dear Mr. Schmidt;

In reference to John G. Cramer's "Light in Reverse Gear, II": I was puzzled by his suggestion of pointing the antenna for advanced radio waves at empty space to avoid an accumulating energy debt.

I assume empty was meant metaphorically because the waves would

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

have to stop at the nearest particles large or small, having a temperature greater than that of the background radiation of space.

Perhaps a comment on this would be of help. Thank you for your consideration of this matter.

STUART M. BLOOM, M.D.
Ventura, CA

The author replies. . . .

I could quibble by saying that *empty* space doesn't contain any particles, but I won't. Your worry is correct. I should have said "to avoid accumulating a *local* energy direction and on encountering any electrically charged particle or system of such particles they would have some chance of being absorbed and of removing energy (i.e., giving up negative energy).

However, your statement about having to "stop at the nearest particle, large or small, having a temperature greater than that of the background radiation of space" is not quite right. The concept of temperature is a statistical idea and doesn't work when one is talking about an isolated particle like a single electron. It works in only a limited sense when one is talking about an isolated atom. A single atom in its ground state (all electrons in lowest energy orbits) would not be able to absorb an advanced radio wave because it would have no excess energy to pay the required energy debt.

So let's try to give a more accurate description of the fate of a hypothetical advanced radio wave emitted from an antenna of the Earth. First it would have to pass through the atmosphere, and there is some probability that it would be absorbed by the air or reflected back to the ground by the ionosphere. In either case it would make the absorption site slightly cooler. If it escaped the atmosphere, it might encounter some matter in the solar system and be absorbed.

If not, the rest of the universe should be rather transparent and it would travel far in space and time before another encounter. In the reverse time direction the universe is contracting toward the Big Bang, so instead of the usual redshift the wave would be blue-shifted by the contraction of space and gain negative energy (like interest on a loan). If there were no intermediate interactions, the wave would ultimately encounter the region of high mass-energy just after the Big Bang and would certainly be absorbed there. So one might view an advanced-wave antenna as an energy source which draws energy from the Big Bang. Note however that the energy obtained from such an antenna would be considerably less than the energy removed from the Big Bang because of the aforementioned blue shift.

I hope this clarifies the discussion that prompted your question. *Analog* puts a limit of 2000 words on my AV columns. Within that space limit there just isn't room to discuss all of the interesting aspects of a concept like advanced waves in detail. Thanks for your interest.

JOHN G. CRAMER

Dear Dr. Schmidt:

That was a fine editorial in the September issue, but it stopped short of a full discussion of social oscillation. The defect is that all your examples depend on NATURAL restoring forces, while in the social machine the forces are applied in response to human judgments. In cybernetic (or control engineering) history we passed from the pendulum to an open loop including a steersman, and only quite recently to the closed loop seen in automation.

The steersman operated by visual ob-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

servation of compass or landmarks to average the course to a pre-set goal (set point). It was at his discretion to apply a judicious force (proportional band) at an appropriate interval (time constant) after detecting a deviation. A good one did this smoothly, but a novice tended to overcontrol and send the vessel zigzagging—with high fuel consumption and nauseated passengers. Another example is a new bicycle rider; he falls toward the right, then toward the left, but catches his balance and wobbles on. Doesn't that sound like society?

It is possible to model just about any process, even with no knowledge of its internal workings, by using the three parameters shown above in parentheses if a record of adequate length (1 to 3 cycles) is available. After that, one can make predictions and test them against reality. Finally, one can look inside the "black box" and pick out the mechanisms related to each parameter.

Now, replace our steersman with a democratic legislation charged with the responsibilities of choosing a set point and providing a proportional band that is effective without being brutal. This would work better if they also had control of the time constant—but that is built into the democratic process. The result will be a long, slow cycle which will never level out, but during which all the extremists will be equally upset—which meets the criterion of "greatest good for the greatest number" and is probably the best we can do. Cutting down on the time constant, as by going to an autocracy, works very well at first but the system becomes too rigid as the autocrat ages. Means tend to become more important than goals and the flexibility needed for unexpected encounters is lost.

Unfortunately, a society will include a vast number of set points, and each of those cases will carry with it optimum values for the other two parameters. As you said, even the set points can vary with time as new factors emerge. Thus, all the computers in the world together would find society even harder to model than global weather, the classic challenge. However, there would be great merit in modeling a few critical cycles, such as war/peace, crime/punishment, and feast/famine.

ALAN BEERBOWER

San Diego, CA

Dear Stan:

After reading your September editorial (the September issue in July? Ghads!), I am tempted to drag out my copy of *Historian's Fallacies* and quote what the author has to say about mechanistic analogies in the study of history. However, as you note, you don't claim the analogy is either perfect or complete, so that might be wasted effort.

However I would like to suggest that there is a fundamental problem in attempting to force the pendulum/oscillator analogy beyond the obvious. The problem is not, as some historians claim, that human societies are inherently nondeterministic and hence beyond the sphere of mere mathematics. The difficulty is that a society is so damned complex we can't yet handle the mathematics except in the most limited kinds of circumstances.

A moment's reflection will show that representing a society mathematically would involve a system of equations, much like the systems of linear equations we studied in high school. There are two differences between the equation system representing the kind of mixed-nuts problems we are given in algebra one and the system needed to say anything meaningful about a human

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

society. The equation system for a society is immensely larger and at least some of the equations are decidedly non-linear.

This has a couple of very important consequences which have been giving the people who try to study society either mathematically or by mechanistic analogy fits for at least a century. The most important of them is that the equation system for something as complex as our society is shot full of discontinuities. Unless you understand the underlying equations—or at least know the regions where the mapped surface is relatively smooth—it is very easy to "fall off the edge of the world" as it were. Like the Fool in the Tarot, the student steps blindly over the cliff's edge with his eyes firmly fixed on the sun of his theory.

These kinds of discontinuities are found more commonly than not in equation systems describing real-world phenomena. Consider the lift of an airfoil. The lift function is actually the synthesis of an equation system and it changes radically at the stalling speed and as the air flow over the surface goes supersonic. If you computed your lift function by observing the lift at a series of points in the moderate speed range, and if you didn't understand the underlying equations, you could be in for a nasty surprise.

Because of these discontinuities, it is dangerous to attempt to work with first-order approximations in describing a society. If the approximation is carefully done it will probably work quite well in the immediate neighborhood where the underlying observations were made. Move away from that area and you can get some very funny results.

Economists have been bloodying their noses on this ever since they started trying to describe economies mathematically. My favorite example (indeed my *bête noire*, for a number of reasons) is the (in)famous Club of Rome Report, *Limits to Growth*. That was based on a very elaborate computer model of the world economy. Because the economy is so complex, the model made a number of simplifying assumptions. Among those was that the price of goods was sufficiently unimportant to be ignored. The result was that the model was grossly inaccurate and completely failed to predict the trend of events over the next decade, never mind the next century.

Once you do understand the dynamics of the underlying system, you can make allowances and fruitful simplifying assumptions. Our problem is that we lack the necessary level of understanding. Not only don't we know enough to explicitly set for the characteristic equations of a society or the rather simpler case of an economy, we don't even know where the surface of those equations map is smooth.

Note that this does not mean we cannot describe a society mathematically, or that we cannot apply mathematical techniques fruitfully in limited fields. We can't yet make accurate predictions based on mathematical models of society because we don't have the kind of computing power necessary to handle the huge equation systems and we can't simplify them because we don't know what's important and what isn't. (I'm not sure that the system for a society is computable or even solvable, but I'm enough of an optimist to make that assumption.) Among the areas where we can make good use of mathematical techniques are the use of game theory and some very limited kinds of economic analysis. But in neither case can we push too far beyond what is intui-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

tively obvious.

RICK COOK

Phoenix, AZ

Dear Stan,

As usual, I enjoyed your editorial ("More than one way . . .") in the October, 1985 *Analog*, but I'm afraid I have to take issue with one of the minor points in your essay. On page 8 you said, "Local example: no known macroscopic animal on Earth has wheels, though the wheel is well established as a good way of moving large masses over suitable terrain." This is a subject near and dear to my heart, since I wrote a paper on it two years ago. If you'll allow me a little liberty with the concept of what constitutes an organism with wheels, I'm afraid you weren't quite right—organisms that use wheels for locomotion have evolved nearly a dozen times on this planet.

I've enclosed a reprint of the paper for you. It is written in the technical style typical of the scientific literature, but I hope you can find the time to plow through it—I think you may find both the approach and the conclusions interesting.

MICHAEL LABARBERA

OK, OK! But bacterial flagella are microscopic; and dung beetles, tumbleweeds, and pangolins require stretching the definitions a bit further than I had in mind.

Dear Stanley Schmidt,

In Charles Hornig's letter to Brass Tacks (October '85) he mentions that he feels that *Analog*'s science articles are "far too technical for the average reader and would better appear in a purely science magazine." This subject has also been brought up in other letters and editorials in the past.

I consider this a blatant insult to my own and other readers' intelligence. This situation may have been true twenty years ago, but I feel that at least as far as the readers of *Analog* are concerned, this is no longer the case. *Analog* is a publisher of "hard science" science fiction; this implies to me that any reader who predominantly purchases *Analog* over other science fiction magazines must have an appreciation for, as well as an understanding of, basic science. None of the science articles I've read in *Analog* thus far requires anything more of the reader; they are in fact so basic as to be easily understood by anyone with at least an elementary school education.

Additionally, I would like to speak in defense of that rare individual, the technically oriented reader. These readers, myself included, are probably the most avid readers of the science articles, and we by no means consider ourselves technical illiterates. Many of us actually enjoy toying with an equation to verify an author's results, and perhaps carry them a little further to gain an additional insight into the matter. We're the readers who read a story, then dig out a pocket calculator or computer and go back through the story to see if it is technically feasible; whether a star would actually go nova, or an orbit be stable, or a terraforming process be practical. Rather then cutting down on the technical aspects of the articles, we'd like to see an increase, along with an increase of the technicalities in science fiction stories and editorials. True, the average reader may not get the same thrill that I get from all this; however, in a well written article they should be able to skip over the technical sections and still be able to fully understand and enjoy the article.

In conclusion: don't neglect the technically oriented reader. It doesn't take up that much space to appease both the

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

average reader's desire for enjoyable reading as well as the technically oriented reader's need for technical articles.

CLARK R. ANDERSEN

Abilene, TX

To the Editor:

I have a mild disagreement with Paul Carter's special feature in the October 1985 issue. In the U.S. we have this quaint practice of requiring that judges of the Supreme Court have law degrees and be members of some bar. Usually they are practicing lawyers or judges, rarely law professors. On the rarest occasion non-practicing lawyers have been named to the Supreme Court after holding some other high office (Chief Justices Marshall and Taft for example). For the lower federal courts this is a legal requirement, but I believe it is merely customary for the Supreme Court. (The custom would be enforced by the simple action of the Senate Judiciary Committee's reporting the nominee unqualified by a nearly unanimous vote, and the Senate's defeating the nomination if it wasn't withdrawn.)

Barry Goldwater worked in his family's store and served as a pilot in the USAF in World War II. He is not a lawyer.

Hubert Humphrey was a pharmacist, educator, and news commentator. He was not a lawyer.

Offhand, I cannot determine whether Senators Proxmire and Thurmond are lawyers but I vaguely remember that they are not.

So between 2 and 4 of the Justices mentioned wouldn't be Justices.

There is another problem with the characterization of Judge Haynesworth. I vaguely remember that his nomination was defeated because he had once voted on a case where he had an insignificant financial interest, and that later some of the senators who had helped defeat the nomination regretted doing so, when Judge Carswell was nominated.

Finally, the art of judicial extrapolation is not an exact science. A Justice Humphrey might view scientific research as a waste of resources which could be spend on social welfare. A Justice Proxmire might view the FSRIB as a waste of the taxpayers' money, and an attempt to fund scientific research in the future (after all, if the Federal Government determines that this research should take place, why not fund it?). A Justice Thurmond would view federal regulation of scientific research a violation of States' Rights, especially scientific research conducted by Professors at State Universities and Colleges, who are employed by the several states.

ROBERT E. SACKS

New York, NY ■

● It does not take long in terms of human history to *devise* a tool that soon becomes widespread. What takes time is learning the different contexts into which the tool can be fitted.

Jerome S. Bruner

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

THE DOGMA OF OTHERNESS

(continued from page 12)

Irredentist on a universal scale, bucking the popular enthusiasm for the search for "extraterrestrials," Tipler and a few others dare to propose that it is quite possible that Mankind may be the sole intelligent species in the galaxy, perhaps anywhere, anytime.

We can't go into their arguments here. I discuss them (and the counter-reasoning) elsewhere, anyway. But I point them out as just one edge of what seems to be a new philosophical movement—one that does not seem to threaten the *existence* of the Dogma of Otherness so much as threaten it with change.

Old Philosophies

There were essentially three major views of Man in Nature which contended with each other in Western thought a century and a half ago. *Traditional Christian, Mechanistic, and Romantic.*

The Traditional Christian point of view was that nature was placed here for the use of man, and that the world was meant for short-duration use anyway. The wilderness was a cruel parody of the Garden of Eden, a travesty to be fought and tamed. Other creatures were separate from man in the fundamental sense of lacking souls.

As Matthew Cartmill puts it, man "saw nature as sick, and man as inherently above nature—that is supernatural."

The Mechanistic view, a reaction to the one above, grew out of the 18th century Enlightenment. The Universe, as the emerging sciences and particularly mathematics unfolded its mysteries, was seen as a majestic clockwork . . . with mankind merely a complicated little subset of parts, spinning in unseen harmony with the rest, under the apparent chaos of daily life.

This was a tremendous step toward sympathy toward otherness, a direct outgrowth of the Principle of Mediocrity. But it, too, had its day and then saw the creation of a counter-reaction.

The Romantic movement answered the Age of Reason with emotion, logic with *Sturm und Drang*. With Rousseau's extolling of the natural, and condemnation of civilization as the essence of corruption, the suite was complete. Humankind can dream of to a return to harmony with the natural world. We can best do this by abandoning an arogant insistence on our own difference.

Each world view contributed to our culture. The traditionalists oriented us toward the future, and toward taking command of our world. The mechanists taught us to appreciate that world's delicate, beautiful balance. And about the Romantic view, Cartmill said that ". . . a prevalent vision of man as a sick animal estranged from the harmony of nature conditioned new scientific theories and lent them the mythic force and consequence that they needed to be widely accepted."

Ducks That Rape

But the 21st century looms. Taken by themselves, each of the philosophies discussed above appears ludicrous to a modern woman or man. Might it, per-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

haps, be time to craft a new view of nature and our place in it?

The Doctrine of Otherness has had powerful propaganda, over the last several decades. In particular, the animals have been getting awfully good press.

"Man is the only animal that (take your choice)

. . . murders its own kind
. . . kills its children
. . . kills for sport
. . . commits sexual assault
. . . wages war
. . . hurts the environment . . ."

A generation has grown up being told these things over and over. And in having humility and shame pounded into us, we have begun, indeed, to look upon ourselves differently. It isn't just because of Teddy Bears that we have started to treat the other creatures around us with more respect. It is also because we have had it driven home again and again that we had better shape up if we ever expect to live up to a standard of decency.

But whose standard?

Why our own, of course. And here's where that paradox comes in, again. Species have *always* gone extinct. That is how evolution works. The pity comes in when *we* see nature's creations as beautiful, and when *we* feel shame over wiping out something as unique and unreplicable as a blue whale, or a manatee, or even a dodo.

No question where I stand in all this. I think environmentalism is *good*. That's with a capital G. Not only am I a thoroughly aculturated member of my generation—fully inoculated with guilt feelings over mankind's crimes—but I'm beginning to see, along with millions of others, that keeping up a complex ecosystem is the best way of ensuring our own long-range survival.

This view of Man the Destroyer—a beast within ourselves who must needs be constantly watched—may be the very fairy tale needed to frighten us into our senses. Cartmill puts it aptly:

"There is no way to tell for sure whether this mythmaking has contributed to our survival thus far. I suspect it has. I doubt that the world would have ended if Muir or Twain or Freud or Jeffers had never lived. Other visionaries would have come up . . . But I think it might perhaps have ended by now if we hadn't learned to be afraid of ourselves long before that fear was entirely reasonable."

The propaganda we grew up with was a Good Thing, no question about it. It appears to have saved the otter, the dolphin, the gorilla and perhaps, the whales. Maybe even ourselves.

But is it true?

Bad-mouthing mankind has been important drama. But once we are in the habit of protecting nature for its own sake, do we have to keep it up?

Now I want everyone who is not already a committed environmentalist to close these pages before I go on . . .

Is it only "us" here, now? Good. Now let's have the truth.

It's all a big fat lot of hype. Nice hype, but hype nonetheless. All over the natural world there is an almost infinite variety of animals that (take your choice)

. . . murder their own kind

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

. . . kill their children
. . . kill for sport
. . . commit rape
. . . wage war
. . . harm the environment . . .

Et cetera, et cetera. Day by day we are finding that the line dividing us from the animal world blurs, becoming one of magnitude, not quality.

Apes use tools in the wild and can be taught sign language. They are also prone to simpler versions of every type of human mental illness. (Including infanticide and deadly, "organized" warfare.)

Male lions will kill the cubs of their predecessors, after winning cunning "wars" of eviction.

Stallions will deliberately kill each other.

Historically, a large part of the deforestation of the Middle East seems to have been performed not just by man, but by goats as well. Elephants are a primary cause of the deforestation of East Africa.

Mallard ducks have been observed to committ gang rape on mated females. In more and more supposedly "monogamous" species of birds are we discovering that males committ philandery.

Even dolphins, almost alone with mankind in being capable of altruism outside of their own species—of helping others no matter how different—have also been observed murdering their own kind.

All three of the old world views lie in shambles around us. Only a traditionalist fool would say that man is the "paragon of animals," and nature our playpen. Only a pollyanna would contend that the clockwork spins majestically on, in harmony whatever we do. And it is also romantic nonsense to say that we are a pimple on Creation . . . that the world would be somehow far better off without us.

Where does that leave us, then?

It leaves us, I hope, uncomfortable and thoughtful.

We should not stop pumping out the nature films. "Humility propaganda" serves a useful purpose, for there is still a world out there stuck in phases one and two. But for those of us who have passed through the Doctrine of Otherness, it might be time to move on.

Perhaps to the attitude of an Elder Brother—only a little more knowledgable than his fellow creatures, but with the power and the duty to be their guardian. In time, if we do well with the garden, we might even have reason to pause and give ourselves a little bit of credit . . . to look, as a species, into the mirror and see neither Lord of Creation nor Worldbane, but merely the first of many in the world to rise to the role of caretaker. ■

● Only a mediocre person is always at his best.

W. Somerset Maugham

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

a calendar of analog upcoming events

3-6 April
AGGIECON 17 (Texas A&M SF conference) at College Station, Texas. Guest of Honor—George R.R. Martin; Artist Guest of Honor—Frank Kelly Freas; Special Guest—Orson Scott Card; TM—Howard Waldrop. Registration—$10 until 15 March, $13 at the door. Info: Aggiecon 17, % Cepheid Variable, Box J-1, Memorial Student Center, Texas A&M University, College Station TX 77844. 409 845-1515.

4-6 April
WICHACON III (Kansas SF conference) at the Holiday Inn Plaza, Wichita, Kans. Guest of Honor—Marion Zimmer Bradley; Art Guest of Honor—Jan Sherrel Gephardt; Filk Guest of Honor—Marty Burke; TM—Robert Vardeman. Registration—$10 in advance, $12 at the door. Info: Mid America Science Society, Box 47025, Wichita KS 67201. (316) 267-8690.

4-6 April
COASTCON IX (Gulf Coast SF conference) at Howard Johnson's, Biloxi, Miss. Guest—Terry Brooks and Ben Bova. Registration—$15 until 28 February, $20 at the door. Info: Coastcon IX, Box 1423, Biloxi MS 39533.

4-6 April
I-CON V (Long Island SF conference) at State University of New York at Stony Brook. Artist Guest of Honor—Vincent DiFate; Special Guests—Norman Spinrad and James Doohan. Registration—$14 until 20 March, $16 at the door. Info: I-CON, Box 550, Stony Brook NY 11790. Include S.A.S.E.

4-6 April
GENERICON II (Capitol area SF conference) at Rensselaer Polytechnic Institute, Troy, N.Y. Artist Guest of Honor—Mark Rogers. Registration—$10 until 8 March, $12 thereafter. Info: Genericon II, Box 66, Rensselaer Union, Troy NY 12180-3590.

19-20 April
PRISM (Kansas City SF conference) at Hilton Airport, Kansas City, Mo. Guests include Richard Pini, Robin Bailey, Pat & Lee Killough, Gene Roddenberry, Dawn Wilson, David Cherry, etc. Registration—$25 in advance, $30 at the door. Info: PRISM, Box 4557, Kansas City MO 64124. Include S.A.S.E.

25-27 April
CON*TRETEMPS V (Nebraska SF conference) at Omaha, Nebr. Pro Guests of Honor—L. Sprague & Catherine de Camp. Artist Guest of Honor—Victoria Poyser. TM—Rusty Hevelin, Fan Guests of Honor—Jim & Susan Satterfield. Registration—$14 until 1 April, $17 at the door. Info: Con*tretemps V, Box 45, Omaha NE 68101.

25-27 April
CINCLAVE (Cincinnati SF conference) at Hyatt Regency, Cincinnati, Ohio. Guest of Honor—Edward Bryant, Artist Guest of Honor—Joan Hanke-Woods. Info: Cinclave, 310 Oak Street #606, Cincinnati OH 45219.

28 August-1 September 1986
CONFEDERATION (44th World Science Fiction Convention) at Atlanta, Georgia. Guest of Honor—Ray Bradbury, Fan Guest of Honor—Terry Carr, TM—Bob Shaw Registration—$25 supporting; $55 until 15 February 1986, then more. This is the SF universe's annual get-together. Professionals and readers from all over the world will be in attendance. Talks, panels, films, fancy dress competition, the works. Join now and get to nominate and vote for the Hugo awards and the John W. Campbell Award for Best New Writer. Info: ConFederation, 3277 Roswell Road, Suite 1986, Atlanta GA 30305.

—Anthony Lewis

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Explore new worlds beyond the limits of time and space.

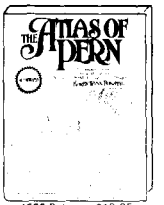
2097 Pub. ed. $17.95

1800 Spec. ed.

0901 Pub. ed. $14.95

2154 Pub. ed. $19.95

1909 Pub. ed. $16.95



1586 Pub. ed. $19.95

1693 Pub. ed. $18.95

2105 Escape Velocity: The Warlock in Spite of Himself. Spec. ed.

2121 King Kobold Revived; The Warlock Unlocked; The Warlock Enraged. Spec. ed.

1420 Includes the First, Second, and Third Books. Spec. ed.

2113 Spec. ed.

2162 Pub. ed. $16.95

0943 Another Fine Myth; Myth Conceptions; Myth Directions; Hit or Myth. Spec. ed.

2022 Doctor Who and the Deadly Assassin; Doctor Who and the Face of Evil; Doctor Who and the Robots of Death. Spec. ed.

Take any 5 for $1 WITH MEMBERSHIP.

SEE OTHER SIDE FOR ADDITIONAL SELECTIONS.

How the Club Works:

You'll receive your 5 books for only $1 (plus shipping and handling) after your application for membership is accepted. We reserve the right to reject any application. However, once accepted as a member, you may examine the books in your home and, if not completely satisfied, return them within 10 days at Club expense. Your membership will be cancelled and you'll owe nothing.

About every 4 weeks (14 times a year), we'll send you the Club's bulletin, *Things to Come*, describing the 2 coming Selections and a variety of Alternate choices. In addition, up to 4 times a year you may receive offers of special Selections, always at low Club prices. If you want the 2 Selections, you need do nothing; they'll be shipped automatically.

If you don't want a Selection, prefer an Alternate, or no book at all, just fill out the convenient form always provided and return it to us by the date specified.

We allow you at least 10 days for making your decision. If you do not receive the form in time to respond within 10 days and receive an unwanted Selection, you may return it at our expense.

As a member you need buy only 4 books at regular low Club prices during the coming year. You may resign any time thereafter or continue to enjoy Club benefits for as long as you wish. One of the 2 Selections each month is only $4.98. Other Selections are higher, but always much less than hardcover publishers' editions—up to 65% off. The Club offers more than 400 books to choose from. A shipping and handling charge is added to all shipments. Send no money now, but do mail the coupon today!

Note: Prices shown are publishers' edition prices.

SCIENCE FICTION BOOK CLUB®

Dept. AS-956, Garden City, N.Y. 11535

I want the best SF in or out of this world! Please accept my application for membership in the Science Fiction Book Club. Send me the 5 books I have numbered in the boxes below, and bill me just $1 (plus shipping and handling). I agree to the Club Plan as described in this ad. I will take 4 more books at regular low Club prices in the coming year and may resign any time thereafter. SFBC offers serious works for mature readers.

1.	2.	3.	4.	5.

Mr.
Ms _____
(Please print)

Address _____ Apt. # _____

City _____

State _____ Zip _____

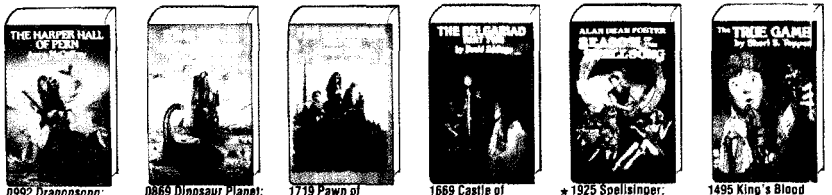
If under 18, parent must sign _____

The Science Fiction Book Club offers its own complete hardbound editions sometimes altered in size to fit special presses and save you even more. Members accepted in U.S.A. and Canada only. Canadian members will be serviced from Canada. Offer slightly different in Canada. 38-S231S

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

1743 Pub. ed. $16.95 | **1883** Pub. ed. $17.95 | **0109** Pub. ed. $16.95 | **1933** Pub. ed. $18.95 | **1362** Pub. ed. $14.95 | **1487** Spec. ed.

0380 Spec. ed. | **1503** Spec. ed. | **2089** Spec. ed. | **2139** Pub. ed. $15.95 | **1867** Pub. ed. $13.95 | **1818** Pub. ed. $12.95



0992 ***Dragonsong*; Dragonsinger; Dragondrums.** Comb. pub. ed. $38.85

0869 Dinosaur Planet; Dinosaur Planet Survivors. Spec. ed.

1719 Pawn of Prophecy; Queen of Sorcery; Magician's Gambit. Spec. ed.

1669 Castle of Wizardry; Enchanters' End Game. Spec. ed.

* **1925 Spellsinger; The Hour of the Gate; The Day of the Dissonance.** Spec. ed

1495 King's Blood Four; Necromancer Nine; Wizard's Eleven. Spec. ed.

TAKE ANY 5 FOR $

WITH MEMBERSHIP

See other side for coupon and additional Selections.

THE SCIENCE FICTION BOOK CLUB®

38-S231S

* Explicit scenes and/or language may be offensive to some.

Note: Prices shown are publishers' edition prices.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED